181 and not caused by a state of laziness, for although they would not
565 consider working the land at any price, they would not mind traveling
thousands of kilometers under often difficult and quite dangerous
conditions to go pillage opposing tribes. Once back in camp, they
intend to lead a life free from any material cares, shifting the burden
to their vassals.

422 They entrust the keeping of the captured herds to the Imrad,
565 reclaiming the beasts from them when they need them and the
necessary usufruct for their food. For themselves, they keep only
[231 mounts for war and for transporting household objects and are content
234] with small herds of goats with only the number of head strictly
necessary to assure their daily milk needs. In the same way, they
[567] do not own many slaves of their own, for the latter would make so
many months to feed, which they are wary of.

565 Although they rely on their Imrad for everything, they do not
abuse them, for, as a Tuareg proverb says, "we must not kill the
camel which feeds us," and their demands always take into account
the wealth and the possibilities of the moment.

565 Every year the Imochar levy a vassalage tax called a tioussé
631 on the Imrad. This tax, fixed for each tribe, includes an annual
651 contribution of a certain number of head of livestock, loads of
grain, miscellaneous items /160/ waterskins , tent stakes, etc.),
[643] tanned hides, butter, etc. In principal it is invariable and paid to
the aménokal who disposes of it as he wishes, making allowances
for the needs of the Imochar.

643 The aménokal leaves the animals which he levies under the
651 management of the Imrad, who furnish him the usufruct from them.

Individual rights of Imochar over Imrad do not exist in principal.
565 Actually they do exist when a man is the last representative of a
631 tribe and levies for himself the rights falling to his tribe.

651 On the other hand, some undertake to make small levies on the
Imrad; the latter never refuse. And we must say in defense of the
nobles that they treat their Imrad quite generously when a fortunate
raid makes them temporarily well off.

565 and, second, they are dealing with a woman who submits to their
567 caprices more easily than a woman of their race and whom they can
595 change at will. Children born of these concubinages are free but are
not members of their father's class. The latter recognizes them as
[428] his, but they are morally considered slaves. However, they can
inherit from their father.

565 /171/ Tuareg women of the noble class who have relations with
833 the Iklan are discredited among their own people. But the case is
558 not very rare, it seems, particularly since a legend maintains that
[842] the relations between Imochar women and captives are sterile.

567 The Iklan have very corrupt mores and practice pederasty and
[838 other vices. To steal and lie is instinctive for them, defects found
679] for that matter in most of the Sudanese Negroes.

Thus, when they keep goats in the pasture, they are accustomed
[272] to sucking them. Therefore, in some camps they never receive any
milk since it is rightfully presumed that they have served themselves
[304 first. Some masters, to protect themselves from these thefts, do not
234] hesitate to padlock the mouths of the herdsmen by perforating their
lips. A few years ago, there was still an old woman in the Ahaggar
who had suffered this mutilation.

They live very familiarly with their masters, and some have
deserved their confidence, either by their intelligence or by their
[644] courage during raids. The former aménokal of the Ahaggar, Moussa
ag Amastan, was always accompanied by his Negro Chernach, and
the feats of war that they accomplished together are still the object
of the most marvelous tales during camp nights.

567 A slave may ask to change masters when he is mistreated or
when he hopes for more advantages. Since the Tuareg generally
685 does not want to be separated from his slave with no recompense,
the slave resorts to a subterfuge which consists in cutting off the ear of an animal from the herd of the master to whom he wishes henceforth to belong, or committing some other depredation of the same sort. This offense brings about a right of life or death over the slave who commits it, on the part of the injured party. In practice, according to the accepted custom, this slave automatically becomes

According to what we know of the production of the cultivated
262 lands of the Ahaggar itself and according to what the Tuareg are obliged
433 to import, we may know approximately their needs. During the good
439 years, local production is equivalent to only one quarter of the needs.
It may be evaluated at 150 tons. To this must be added wheat production, but this cannot be taken in con-
237 sideration insofar as con-
415 sumption is concerned, since
234 it is almost entirely destined for export. It follows from this that import needs amount to 4, 000 loads of millet a year, calculated at 150 kilograms each, making 600 tons, which are for the most part bought or exchanged at Damergou or in the Tahoua region. The annual demand for dates is 400 loads.

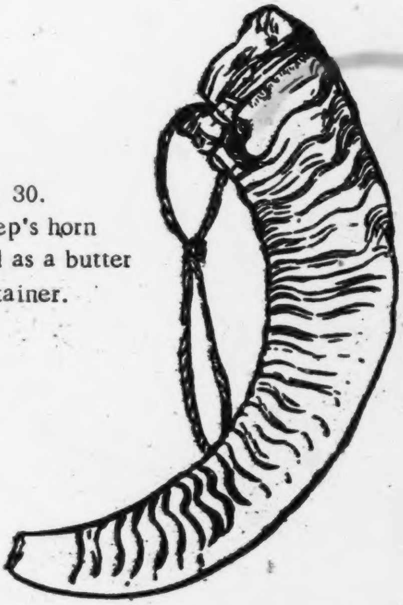


Fig. 30. Sheep's horn used as a butter container.

From these figures it
146 follows that the annual needs per person are approximately one load of
262 millet and one-tenth of a load of dates.

511 Individual consumption may thus be estimated at 187 kilograms of millet and 15 kilograms of dates per year, while an identical calculation /232/ for the Saharian Arabs has given us 180 kilograms of wheat and 75 kilograms of dates. But we must not deceive ourselves. These figures are drawn up for years, if not of abundance, at least of relative facility. Indeed, the annual average is very much lower, for the Ihǎggaren do not always have at their disposal the means of exchange to meet their needs, and one may reduce the figures cited above by a good third, sometimes even by half.

824
222

To make up this deficiency in graminaceae, the Tuareg have recourse to products of gathering.

After a rain the captives and the Imrad women gather the seeds [262] of certain plants which grow in the Ahaggar valleys. They are the *afasso* (*Panicum turgidum F.*) and the *oulloul* (*Aristida pungens D.*). But the size of the yield varies with the abundance of rain, and one may say [237] that most of the time it is [281] quite /233/ uncertain. [415] This is not the case in the [234] Sudan, where the Iklan gather whole bags of wild seeds, particularly *cram-cram* (*Cenchrus echinatus*), every year.

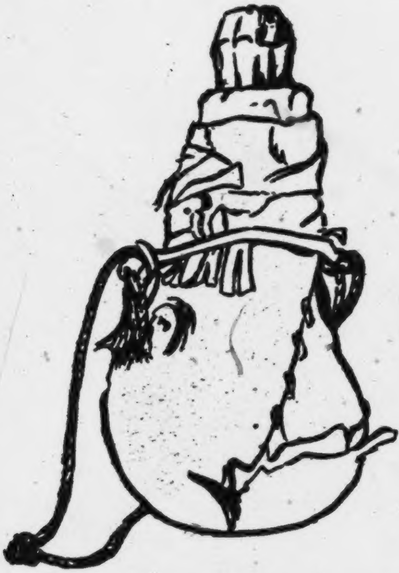


Fig. 31. Little leather flask used as a butter container.

To be sure, there are a few wild berries in the Ahaggar, such as those from the jujube tree (*Zizyphus lotus D.*) and the *téborak* (*Balanites aegyptiaca*). [731] In case of famine the Tuareg fall back on other seeds, such as those of the colocynth, the *Acacia tortillis*, etc. However, all these plants [262] play only a secondary role in the Tuareg diet.

The Tuareg have at their disposal milk from their camels, [272] goats, and ewes. They drink it either whole or diluted with water, either fresh or sour.

The luxury of drinking whole milk is reserved for young [264] mothers and children. Adults generally drink fresh milk morning and

[264]
272 evening after the milking, and at the noon meal they drink milk which has already soured. It may accompany the dishes /234/ of
[262] béchena, serve as a sauce, and also be taken as a drink. When they make long moves, the Tuareg carry a bag full of skim milk on their camels. This turns rapidly and gives a sour-tasting whey which is very refreshing. But milk is particularly appreciated for its by-products, butter and cheese.

●234 Butter -- oudi -- is obtained by churning milk in a
[415 little leather
237] bag; a woman shakes it on her knees, making it swing from right to left and from left to right. The butter col-
[237 lected is placed
415] inside a sheep's horn which serves as a receptacle. When butter production exceeds daily consumption, the butter is placed in leather containers, in the shape of a flask, where the heat usually keeps it liquid or very fluid, except in winter when it is necessary to heat it to get it out of the container.

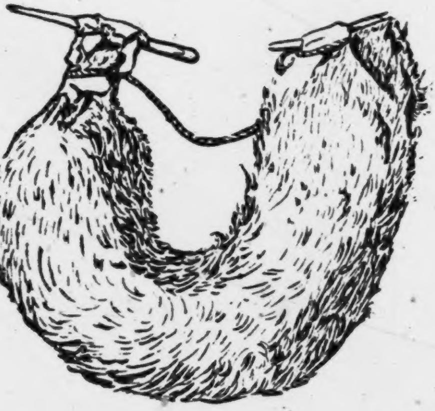


Fig. 32. Butter container made from the skin of a camel's neck.

262 Butter is mainly eaten as a sauce; béchena gruel or wheat cakes are moistened with it. The Tuareg never cook it, as in fried foods.

234 In years when pasturage is particularly good, which assures an abundance of milk from the animals, the Tuareg make cheese -- tikomaren. They sour the milk, squeeze the curds in little mats

234 to extract all the water, and then dry them on /235/ small screens
placed in the branches of trees. It goes without saying that cheese
making is very rare in the Ahaggar and that the Tuareg make it
[438] particularly when they are nomadizing in the Sudan. Every year
the Ihǎggaren bring back large supplies of cheese from their stay
in the Sudanese zone; these cheeses, dry as a bone, are either made
by the Ihǎggaren or bought from the southern tribes. They make
252 an important contribution to the Tuareg diet. These dry cheeses
262 are ground in a mortar and reduced to small fragments so that they
have the consistency of flour. Then they are mixed with food,
either in *béchena* gruel or in a drink of *béchena* flour and dates.

262 It might be supposed that meat plays a very large role in the Tuareg diet. But let us recall one of our old French proverbs which says that the shoemaker is always the worst shod. We could apply this adage to herders, who perhaps eat less meat than anyone else. A herder has animals for the use of their products, but he very seldom eats them, for each butchering is a loss of capital.

Indeed, the Tuareg kill their animals only under very unusual
[233] circumstances, especially at the time of religious and family
festivals. These killings recall somewhat the religious meaning
of sacrifices. This does not mean that they do not like meat, for
when they raid a rival camp, they hasten to make drastic inroads
on the smaller livestock and eat until they are about to burst.

224 Hunting furnishes them a little additional meat. Each year
262 they kill a certain number of gazelles and wild sheep, eating part
[251] of the meat fresh and drying the rest to keep it on hand.

They capture star lizards (*Uromastix acanthinurus*), jerboas,
222 *gondi* (*Ctenodactylus sp.*), sometimes even jackals and hares. We
262 can add to their meat diet grasshoppers (*Shistocerca gregaria*),
[224] which they grill in the embers and then dry in order to pulverize
[252] them. All Saharian nomads are very fond of grasshoppers, and
since remotest antiquity some North African tribes are supposed to

232 of the average resources of their country and never let their flocks
[272] exceed the number of head necessary for the milk needs of their
family -- about ten to twelve animals per person. The surplus is
[438] consumed or sold to the sedentary people in the agricultural centers.

/253/ The Ahaggar goats give very rich milk which makes
233 excellent butter. The meat, which is a little tough, is eaten boiled,
234 and the hide is valued for making saddle bags, waterskins, and
[252 262] sometimes tents.

237 The ass. -- The Ahaggar Tuareg have many asses. They do
not breed them properly speaking, taking no care of them and letting
[232] them reproduce freely. Many Tuareg do not know the exact number of asses they have, for they do not use them all and abandon
[422] them in the mountains where they become more or less wild. The
young ones, born in the meantime, do not let anyone get near them,
and they must be trapped and then trained in order to be used.
137 These asses running loose, called haoulil by the Ahaggar Tuareg,
have given rise to a legend of wild asses. On this subject, Gautier
cited the adventure of General Laperrine who had a "wild" ass
hunted by his Arab horsemen, only to notice later that the animal
had been castrated.

Although there are no more wild asses in the Ahaggar, it is
[172] nearly certain that there were some. They were pictured in the
rock drawings of the Djorat wadi, and some still exist in Abyssinia
where they are called "onager."

The ass is very much at home in the Ahaggar. It is possible
233 that it was domesticated there. The legends of the Ihăggaren have
[174] kept the memory of the first inhabitants, the Issebeten, who had
[173] only asses and goats.

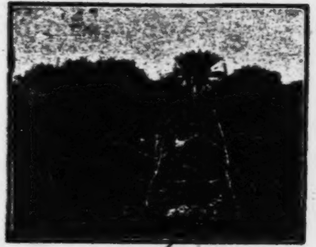
In their short moves the Tuareg utilize asses to transport baggage,
442 and men and women also use them as mounts. The servants also
[312] take asses to replenish the water supply, making them carry the
[357] heavy waterskins on their backs or under their bellies.

usually satisfied with milk, "akh, " fresh ("akh oua kefaïen" 264 |≤][⁘ ⁚ ⁛) or sour ("akh iezza", # ⁚⁛), at the hour when the camels, sheep, or goats come in from pasture.

The basic food of the Ahaggar Tuareg consists of bechna, 262 "inelli" (white-grain sorghum, Graminaceae), dates, "teïni, " and milk, "akh." |⁚···||+

But their country provides them with many resources 22 which they are careful not to neglect, especially the poor, 556 the "tileqqiouin" |⁚···||+ , who constitute the majority.

All the "imr'ad" go to harvest the grains of "toulloult" 243 and "afezzou." Women, children, youths, negroes and 221 negresses go into the wadis to gather the harvest, which takes place from May to June for "toulloult" and from July to the end of September for "afezzou." /29/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Dautheville

Idelés (Koudia)

Usually, before the harvest several wadis are forbidden territory, and camels are not led there until the harvest is finished.

The produce is gathered and put into hide sacks. After the grains have dried, they 252 need only to be put onto small trays of "afezzou, " called "tissiin, " which are shaken, and the hulls fall off and remain on top. The grains are ground to powder, and a kind of gruel is made with water or butter.

The Tuareg are also very fond of "tikamarin" |ⵀ]⁖+ 234 252 262 438 , cheeses as hard as wood which they get from Aïr. They grind them in mortars and mix them in their food.

They very seldom eat meat, except that of game which 262 they can kill in a hunt: gazelles, mountain sheep, and 224 antelopes. But often they prefer to smoke this game in order 251 438 to go and sell it in the Tidikelt.

There are also lucky or unlucky days. The lucky days, 777
those which are recommended for starting on a journey, are [484]
Friday after prayer, Saturday morning, and Monday. /63/
For the lucky day of the month one first counts 2 from the index finger and, coming back to the index finger, 7, 12, 17, 22, 27.

The unlucky days are Sunday and Wednesday.

The Tuareg also believe in the evil eye, "tahott." 754

An eclipse is the sun's raid on the moon, and vice versa. 821

Finally, there is a very curious custom of which Duveyrier 769
has spoken, which is that of consulting old graves. Usually 787
it is the women who go to consult them. They dress well and must avoid having on themselves anything of iron or steel, even a needle. They lie down near the grave, and the "zabbar" (ogre) inhabiting the grave appears to them in the form of a giant with eyes as large as a camel's, and gives them the answers they want. They are consulted especially in order to get news of absent ones, people gone on a raid or in a caravan, from whom there has been no news.

Chapter IX

Stock Raising. Flocks

Camels, sheep, and goats constitute the chief resource 233
of the Tuareg, as of all nomads. Camels especially are the object of all their care, since these give them the greatest
service. They rely greatly on camels, ewes, and goats be- [234]
cause of the milk, of which they drink a great deal, and melted butter, "oudi," which they make.

They use all the hides: those of camels for sandals, 237
containers for butter, watering troughs, etc.; those of sheep 281
or goats for waterskins and the manufacture of tents, leather clothes, etc. /64/

5: Nicolaisen E-4, 5 (1951-1955) 1959

MS25 Tuareg MS25
Ahaggar
Air

During drought periods the uttermost poverty is the lot of the Ahaggar Tuareg,
132 who must then rely almost exclusively on agricultural products for their nourish-
262 ment. But in years of abundant rainfall they have much milk during the winter,
[234] and they make butter and cheese to be used during the hot season when milk even
in good years is scarce. They then also have meat for their sustenance but this is
less important than milk-food.

In good years the perennial plants do not form the most important fodder of the
137 domestic animals. For heavy rainfall will as if by magic change the barren country
233 outside the valleys. An extremely rich vegetation of annual grasses and herbs
springs up, and these tender plants constitute the very best fodder. But as, owing to the irregularity of the rainfall, annual pastures will not appear every year, it is difficult to breed other animals than goats and camels to which can be added donkeys used exclusively as beasts of burden and for riding. It is true that most Ahaggar Tuareg have a few sheep but none of them have cows (zebus). Cow-breeding and also effective sheep-breeding cannot be practised in a country like Ahaggar where for a period of years there may be no pastures of annual plants. In dry years the thorny acacias form the most important fodder of camels and goats, but the leaves of these trees cannot be eaten by cows and only with great difficulty by sheep.

In Ahaggar rain may fall at most seasons as the country is situated on the
132 frontier of two different rainfall belts, namely that of the Mediterranean where
rain occurs mainly in winter, and that of the Sudan where rain will fall late in
summer. For a long period of years rain has fallen most abundantly late in summer,
but according to Dubiéf this has not always been so. Not many years ago rainfall
was almost equally common at all seasons (Dubiéf 1947, p. 7–23), and Ahaggar
137 still has the characteristics of two distinct climatic zones, likewise as botanically it
belongs both to the Mediterranean and to the Sudan.

On my camel journey from Ahaggar to Air via the wells of In Ebeggi and In
[132] Azaoua in April 1955 I experienced a rapid change of climatical and botanical
conditions. At the outskirts of the southern slopes of the Ahaggar Mountains a
persistent vegetation is very scarce in the valleys, and between the two above-
mentioned wells there are practically no permanent plants. Broadly speaking the
[133] desert region between Ahaggar and Air is nothing but plains of gravel and stone
interspersed with rocks and hills. But a little scattered rain will occur even in these
[132] regions and gives rise to annual pastures which are utilized by passing caravans.
Otherwise the country is uninhabitable.

In the northernmost part of the Air massif acacias and tufts of perennial grasses grow in most valleys as in the lower parts of the Ahaggar Mountains. But compared with Ahaggar permanent vegetation is very rich and in places forms almost impenetrable jungles of trees and brushwood. Further south in Air perenniel plants including trees are very common also outside the valleys, and the country south of the massif very rapidly changes into a kind of steppe or open savannah. The com-

Ahaggar
Air

262 Even when grazing is good stock-breeding products are less important for food
in Ahaggar than in Air as is illustrated in fig. 3 depicting the relative importance
[222] of milk food and vegetable food. A small part of the vegetable food is provided by
collecting seeds of grasses and herbs, while roots, stems, and berries of wild plants
are less significant. The bulk of Tuareg plant food consists of millet, barley, wheat,
[241] and dates. In Ahaggar many Tuareg have gardens with wheat and barley cultivated
[563] for them by black-skinned agriculturists generally known by the Arab word
Haratin (*Izzegaren* to the Tuareg). But most Ahaggar Tuareg acquire the bulk of
438 their plant food from caravan trading with the oases of Tidikelt (dates) and with
262 Sudanese villages as far south as Zinder (millet). Even in years of drought they can
obtain millet from the Sudan in exchange for rock-salt broken at Amadror north-east of Ahaggar. In Air caravan trading with salt seems less necessary to Tuareg
subsistence, although there are also in this country Tuareg who trade with salt
from Amadror or Bilma. Most pastoral households however have a fairly regular
[234] surplus of livestock, butter, and cheese which can provide for the necessary amount
[563] of millet bought in Agadez or south of the massif in Damergou. There are also
241 in Air a great many negroid agriculturists from whom pastoral Tuareg can buy
vegetable products. But millet, which forms the prominent part of Tuareg plant
262 food, is grown to a very slight extent by the agriculturists of Air. Dates are important
[438] in particular to the Ahaggar Tuareg who acquire large quantities from the oases
of Tidikelt. There are also a few Ahaggar clans the members of which own half-wild palms with dates of an inferior quality, as there are Tuareg who have a few
palms growing in their garden plots. In Air dates are not so important for food
but even there pastoral Tuareg may have some palms. Among the Tuareg of
Tassili-n-Ajjer it is very common for pastoralists to sow wheat and barley in the
river valleys when these have been heavily flooded (Nicolaisen 1954, p. 83, 88),
and this primitive agricultural method was apparently known also to the Ahaggar
Tuareg in the past (Duveyrier 1864, p. 372). More recently many pastoral Tuareg
[312] of Ahaggar and Air have taken up agriculture by means of irrigation. There seems
[221] to be a tendency towards semi-nomadism among the Tuareg who are very dependent
on vegetable food derived from agriculture.

The Negroes Of The Sahara.

136 In the above section on Tuareg ecology it is stated that Air climatically and botanically is closely linked with the Sudan. This is true also zoologically as the Air fauna contains a great many species of birds and mammals characteristic of tropical Africa. The bird life of Air seems very akin to that of the Sudanese savannah, and, for instance, guinea fowls are extremely common even in valleys of the northernmost parts of the massif. As examples of tropical mammal life in Air we may here mention that the wart-hog lives in Central Air, and that oryx antelopes

[TEXT CONTINUES ON p. 76]

565 Tuareg of the Iboglan section of the Kel Ṛela clan, but as he now lives outside of
614 Ahaggar the payment is made to the Amenokal.

643 In the past certain vassal clans or matrilineages of clans paid their tiouse to
651 noble Kel Ṛela Tuareg other than the Amenokal, while apparently other clans or
lineages gave tiouse both to the Amenokal and to other Tuareg of the Kel Ṛela clan. But according to my investigations this did not apply to vassals of the Iseḳḳemaren class, who should pay tiouse to the Amenokal only. Duveyrier states that three Kel Ṛela sections (the Iboglan, the Inemba Kel Tahat, and the Inemba Kel Emoṛi) each had their particular vassals constituting clans or parts of clans (Duveyrier 1864, p. 375 ff.). Benhazera gives a more detailed account of relations between noble and vassal Tuareg. According to him most vassal clans paid tiouse to the Amenokal, but some clans or parts of them also gave this tribute to other noble Tuareg. And apparently there might within one and the same noble section be several Tuareg who had their individual vassals from whom they received tiouse payments (Benhazera 1908, p. 139 ff.).

Whole groups of Tuareg outside of Ahaggar also paid an annual tribute known
643 as tiouse to the Amenokal or to other prominent noble Tuareg of Ahaggar in order
651 to avoid raiding by the Ahaggar Tuareg. Thus the Adṛaṛ-n-Ifoṛas Tuareg (the
579 Kel Adṛaṛ) gave a skin tent and a camel annually to the Amenokal, but in spite of
such annual tributes foreign Tuareg groups were frequently raided. If foreign Tuareg paying tiouse to the Amenokal were raided by people of Ahaggar, the Amenokal, according to Foucauld, had the right to a tribute named *ennehet*, about one third of the booty taken, to be paid him by all raiders whether noble or vassals. But raiders who were vassals of the Amenokal's drum-group should also give him half of the booty left when one third had been given. If the foreign group raided complained to the Amenokal to whom they paid tiouse for protection, he might return some of the animals taken, but never all (Foucauld 1951–52, III, p. 1347 f.).

The tiouse paid to the Amenokal and other noble Tuareg by their vassals was
565 also made in order that they should not be attacked or exploited by other Tuareg.
614 But the relation (*temaẓlait* literally meaning "the root of the nail") between vassals
651 and individual noble Tuareg had also an economic function, and was apparently
of great value to both noble and vassal Tuareg. To make this clear I shall now briefly return to ecology.

In Ahaggar camels and goats are extremely complementary to one another.
233 The camel supplies the Tuareg with milk, but with very few other products. And
511 the Tuareg cannot always get milk from their she-camels which yield very little
[234] when pastures are dry. When grazing is good, camel's milk is important for food,
[262] but it is not well fitted for churning butter, and cannot be used for cheese. Camels
are occasionally killed, but as their meat is not very suitable for drying, the Ahaggar
[574] Tuareg will kill camels to utilize their meat only when many people come together,
as for instance at a marriage. Camel's hide is not very important in Tuareg craft,
[281] as tanning is not practised, and Tuareg camels have little hair which is used only
[237] for the manufacture of a few insignificant objects.

for the manufacture of a few insignificant objects. To most Ahaggar Tuareg the 233
camels have little direct economic value. But in raids of the past camels were very 511
valuable riding animals, and they were then as now extremely important for caravan [492]
trading, which provides the Tuareg with most of their vegetable food. [439]

The economic role of goat-breeding is very different. Goat-products play a very
comprehensive part in Tuareg nourishment. Goat's milk is not only drunk, but is [234]
also made into butter and cheese which can easily be stored. Goat's meat is superior
to camel's meat, and one goat does not contain more meat than can be eaten quickly [262]
by the members of a normal household. Furthermore goats are very important in [281]
Tuareg craft; tents, waterbags, and containers for different sorts of liquid and
solid food are made predominantly from their skin, which was formerly also [291]
employed for whole garments. Goat's hair is extremely useful as material for ropes [283]
with which domestic animals are tethered, camel-loads are fastened, and the like.

Pastoral Tuareg could not survive in Ahaggar without goats. They might be able to subsist without camels, which can be replaced by donkeys as beasts of burden. But camels make life much easier to the Ahaggar Tuareg, who nowadays as in the past base their economy mainly on camels and goats. I think it is fairly correct to say that most Ahaggar Tuareg get their milk-food from goats, their vegetable food from caravan trading by camels.

Formerly the true vassal Tuareg of Ahaggar were not allowed to possess camels, [422]
which were owned exclusively by noble Tuareg. Foucauld says that 100–150 years [565]
ago the vassals had no camels, but he does not mention his source of information [114]
(Foucauld 1951–52, II, p. 534). But it is confirmed by many Tuareg that throughout
the 19th century the vassals had not many camels, while they were rich in goats
of which the noble Tuareg had very few. Goat products were given to noble Tuareg
by vassals. As mentioned, goats and butter form part of the tiouse payments to 565
the Amenokal, and were also an important part of the tiouse paid to other noble 651
Tuareg of the Kel Rela. But the noble Tuareg who were masters of the small [421]
temażlait-units within the drum-group could apparently claim practically whatever
they wanted from their vassals. The noble Tuareg, Duveyrier says, in reality had
all rights over their vassals' property. But they were themselves interested in
having rich vassals, and would not discourage them by claiming too much. When
in need of riding camels the noble Tuareg could freely take animals from their
vassals. The vassals had also an obligation to feed their noble lords, who at certain
times would camp among them (Duveyrier 1864, p. 334 ff.). This is also stated by
Benhazera, but he claims that the vassals would not necessarily give everything
demanded by noble Tuareg (Benhazera 1908, p. 54). The noble Tuareg of to-day
have not ceased to claim food products and the like from their vassals. Poor noble [431]
Tuareg frequently ask gifts from their vassals, and there are even noble Tuareg who
temporarily camp close to rich vassals from whom they acquire part of their food.
Vassals may also lend their she-camels to noble Tuareg, who will return the animals
when milk-yielding stops, and this is considered an old privilege of the nobility.

173 is recognized by many vassal Tuareg, but they claim their ancestress Takama to
565 be Ti-n-Hinan's younger sister and not her servant.

The other tradition, told mainly among vassals, claims that the oldest inhabitants of Ahaggar were the Isebeten just mentioned. They were goat-breeders and hunters in the mountains, and also bred donkeys. Some Tuareg say that the Isebeten had no tents, but lived in mountain caves. From these pagan Berber-speaking people descend the oldest vassal clans (the Dag Ṛali and the Ait Loaien). The noble clans came to the country at a much later date. They introduced the camel which made them masters of the country. They conquered the Isebeten, and made them their vassals.

I agree with Foucauld, quoted above, that the latter tradition may contain
[114] an important element of historical truth. It explains the origin of vassalship in a
logical way, and is in agreement with our linguistic analysis and the fact that
vassals in the past were mainly goat-breeders who had no right to possess camels.

Even to-day there is a certain cultural distinction between noble Tuareg and
184 vassals of Ahaggar. Rich noble Tuareg will whenever possible subsist on camel's
565 milk, while vassals although they may be rich in camels will ascribe much import-
492 ance to the breeding of goats and the manufacture of butter and cheese. The noble
[234] Tuareg will use camels for the transportation of tents during nomadic migrations,
while even rich vassals will generally use donkeys. Noble women possess special
riding saddles for camels, while such saddles are unknown in the class of true
vassals. Vassal women will not generally mount camels but donkeys which are
never mounted by noble women.

184 Noble Tuareg and vassals of Ahaggar are culturally different in other respects,
565 and I attach a particular importance to the following distinctions:– 1) In noble
[583] clans bride-wealth is seven camels, in vassal clans one to three camels which may
be substituted with goats. Among vassals of Tassili-n-Ajjer bride-wealth is 25–30
goats. 2) The noble Tuareg brand camels and donkeys with a red-hot iron, whereas
[422] true vassals use earmarks for donkeys as for goats. Though in one vassal clan, the
Dag Ṛali, donkeys are marked in both ways. 3) Among noble Tuareg the tent
belongs to the husband, among vassals it is owned by the wife. 4) The noble
[342] Tuareg frequently use a tent with a central T-shaped post – that is a post on the
top of which is placed a very short crossbar to support the sheet of skins sewn
together. Although such posts may occasionally be used in vassal tents, they are
said to be specific to the tents used by noble Tuareg.

These characteristics of noble Tuareg in Ahaggar are found also in the camel-
[614] breeding clan Iregenaten of Tamesna. This clan is said to descend from mixed
[173] marriages between Tuareg women of the Ibettenaten clan, said to be of noble
origin, and Arab men. This is stated in literature (Lhote 1955, p. 238f. – Briggs
1958, p. 100) and confirmed to me by Iregenaten Tuareg met in Air.

342 Various sub-types of Tuareg skin tents with T-shaped posts are frequently
184 referred to in literature on the Northern Tuareg (Feilberg 1944, p. 139ff. – Lhote

5: Nicolaisen E-4, 5 (1951-1955) 1959

MS25 Tuareg MS25

Air

Pritchard 1940. – Foucauld 1925–30, I–II). 3) As mentioned (p. 113) camel's milk 171
is not well fitted for churning butter, but it can be used as is the case among certain 234
Arab bedouins of the Northern Sahara and according to my investigations possibly
also among the Kel Ajjer who live close to Arab pastoralists, and among the Moors
(Monteil 1952, p. 73). In most Tuareg groups camel's milk is only occasionally used [302]
for butter which is not eaten but employed as a hair ointment. Among some East [262]
African cattle breeders butter is also churned for this very purpose. 4) All Tuareg
and perhaps all Arab camel-breeders use the stuffed skin of a deceased camel-calf
to deceive the mother animal during milking – for camels like cows will not gener-
ally yield milk unless their calves are present. This custom is widely distributed
among cattle-breeders of the Old World. 5) Camel's urine is considered curative 171
and purifying, although it is not used for cleaning milk bowls or added to milk or but- 237
ter as among certain East African cattle-breeders. 6) The custom of bleeding living 525
camels to utilize their blood is practised by Tuareg when lost in the desert without [261]
water and food. This very custom is also practised by the Tebu and by Arab
pastoralists of Arabia. Among the latter camel's blood is apparently used frequently
in periods of hunger (Cauvet 1925, I, p. 701. – Finbert 1938, p. 39). This custom
may have been more common among camel-breeders previous to Islam which
forbids the use of blood. 7) Tuareg camel-calves which are very eager for milk and 171
difficult to wean may be cut in two or three places on the bridge of the nose; the 233
wounds will hurt when the calves try to suckle. On adult animals scars from these
wounds will appear as small bumps. They are believed to add to the beauty of rid- [825]
ing camels and are nowadays made predominantly for aesthetic reasons. As a means
to prevent suckling the same method is also applied to oxen by southern Tuareg,
and Mr. Huntingford has informed me that Nilo-Hamites of East Africa have the
same custom. 8) In the south camels are not always branded with a red-hot iron as 171
among the Northern Tuareg and the Arabs. Most Kel Ferouan clans use earmarks 233
cut with a knife, and this is the case of other Air Tuareg, e.g. the Kel Fadei, some 422
of the Ikaskazan, and the Ifadeyen. Earmarks are possibly also used by some of the
Moors of the Western Sahara, who still use certain Berber words in connection
with camel-breeding (Monteil 1952, p. 103).

Tuareg camel-breeding has traits in common with cow-breeding, and they 171
may be due to historical relations between breeding of camels and cows. The 174
domestication of the camel may have taken place in a pastoral culture similar of 233
the East African cattle complex. In that case the type of dwelling characteristic of 342
camel-breeding may have been a barrel-vaulted hut or tent. Pastoral cow-breeders
of Africa and Asia generally use this type of dwelling, and huts or tents of arch
construction are extremely common among the Tuareg. Mat-covered arched huts 184
like those of Air are known also to the Kel Geres, some of the Eastern Ioullem- 342
meden, and to other Tuareg further west in Southern Tuareg country – in particular
those living close to the Niger (Lhote 1947, p. 71, 79. – Nicolas 1938, p. 62; 1950a,
p. 156f. – Barth 1857–58, I, p. 372f., 597f., V, p. 201. – Delafosse 1912, I, p. 334. –

*233 The actual number of such terms is not known to me, and the Tuareg say they are almost innumerable.
192 A colour term connected with an age term will, as mentioned above, generally be sufficient to describe the appearance of any animal, but colour terms have practical value also in another sense. They are, as the Tuareg put it, like names of men and dogs, and are used by the women to call individual animals to be milked. The names are then followed by a special sound (cf. p. 39, 135).

It is remarkable how intimately goats are attached to their masters. If the flock, as often happens, is grazing alone at some distance from the camp in the evening after darkness, it will immediately gather round the tents, when a special cry is uttered, or if the dogs bark. On the utterance of another cry by the goatherd the whole flock of goats will follow her quickly. On the whole goat herding is easy, and even very big flocks can be guarded by a single boy, or a girl. Kids still too young to follow the flock during grazing normally browse around the camp all day. In Ahaggar and in Tasilé-n-Ajjer these kids will not, as a rule, be let out of the sight of the camp, but this is not so in Ayr where vegetation is very dense in the river valleys. Kids in the latter area easily get lost and eaten by the numerous jackals. In order to know where the kids are a woman, while occupied with her domestic task in the tent, utters at short intervals a sharp, shrill cry to which the kids respond by bleating loudly.

*233 Goats are chiefly useful for the milk they provide. In general, goat-breeding is organized in such
●[234] a way that the maximum possible milk is obtained by the nomads, and kids are allowed to suck freely only for a short period after birth. At this period a kid is known as *asarwas*, which term is used for all sucklings without restriction. The duration of the entire period of suckling is dependent on the pasture. If grazing is good, the kids will suck for two to four weeks, while under severe conditions the period of suckling may be up to two months.

To prevent kids from drinking more than their proper share of milk the Tuareg use various devices.
*233 In Ahaggar and in Tasilé-n-Ajjer small kids are frequently placed in stone enclosures (*ağror*). Such
417 enclosures are also used to prevent kids from following the mother animals when the flock leaves the camp for grazing in the morning, and they serve as a protection against beasts of prey during the night. They are about one metre high, and have a diametre of about one metre (cf. Fig. 17). Similar stone enclosures are said to exist among the *Kel Ewey* Tuareg but not elsewhere in Ayr, where the Tuareg generally make larger round enclosures from boughs of thorny acacias, so that one enclosure is big enough for all kids of a household. These enclosures are often known as *zeriba* (Ar.), but the proper Tuareg name is *afarag* (in the north *afarağ*). They are said to be used also by certain Northern
*233 Tuareg who camp in the lowland where acacias are common. To prevent small kids from running away, get lost or eaten by jackals, the Tuareg may attach them to a tree or to one of the tent-posts by one of their hind legs, which attachment is known as *témdit* among the Ayr Tuareg. Kids are also sometimes tied with a cord around their necks to prevent suckling when the mother animals are resting in the camp. If there are very few kids they are frequently attached to individual cords (sing. *témetrek*), but several kids are also frequently tied to one and the same cord, which is then known as *éseddi* or *aseddi*. Such a cord has several loops into which the heads of the kids are put, while the other end
[171] of the cord or rope is fastened to pegs or trees. These methods are not only practised by the Tuareg, I have frequently seen them in use also among pastoral Arabs of the Sahara and of the Algerian High Plateau.

end of the *akasa* season. In other words:— When the inhabitants of a camp have their collectively 233* guarded goats divided into two parts, one of these brings forth kids at the time when the other is mated. 132

This method of mating-regulation is that ideally used by prosperous goat-breeders both in Ayr and among the Northern Tuareg. If in the north a flock is divided into two parts the kids are born in autumn (*amewan*), and in spring (*tafsit*) the former season being the better. Kids brought forth between these two seasons are known as *amesahar*. But as climatic conditions and consequently also the quality of pastures change from one year to another in the true desert country, the mating-system of division into halves cannot always be practised in Ahaggar and in Tasilé-n-Ajjer. In severe periods of drought goats may be too meagre for mating for a whole year or even longer, during which time the he-goats will have their penis bound. Thus during the dry year 1954/55 no goats were mated in Ahaggar. – It should be noted that the best season for the birth of kids is the late summer or the autumn (*akasa*, *amewan*) when the tender annual plants spring up. Kids borne at this season will be fully grown for mating after one year so that they bring forth kids at the season of spring (*tafsit*, or *tabsit*), while kids born in spring will be mated after a year to bring forth kids late in summer or in autumn (*akasa*, or *amewan*).

Milking takes place twice daily – early in the morning before the flock leaves for grazing, and late 234 ● in the evening one or two hours after the return of the animals to the camp. Milking is done by women, 462 or occasionally by male slaves. The individual animals to be milked are frequently called by their 192 names and a special sucking sound is made to calm the animals, which are milked differently in Ayr 184 and Ahaggar. In Ahaggar the milk-maid holds the wooden milk-bowl (*akus*; Fig. 21b) in her left 415 hand, presses the left hind leg of the goat firmly under the upper part of her right arm, while she milks with her right hand (Fig. 23–24). In Ayr milking of goats is frequently performed in a standing position the milk-maid then holding the milk-bowl (*takabart*; Fig. 37) in her left hand, keeping the left hind leg of the animal firmly between her knees, and milking with her right hand. If the milk-maid milks

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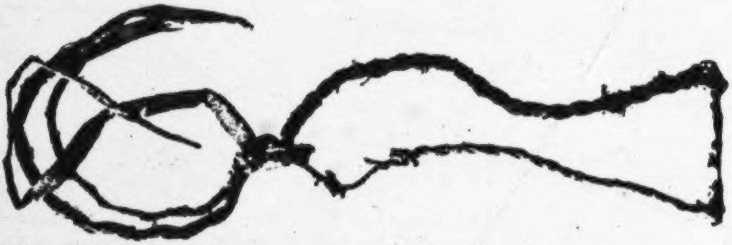

Fig. 18. The little stick (*akara*, *asefres*) used by the Northern Tuareg to prevent half-grown kids from sucking. Ahaggar, the *Ajuh-en-tehle* tribe. Dimension: the stick 0.056 m; the cords 0.330–0.380 m. (N.M. G. 5825).

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Fig. 19. Photograph illustrating how the stick (*akara, asedres*) is attached to the head of a kid. This photograph shows the semi-nomadic Berber-speaking *Chawiya* of Aurès.

● 234 [262] squatting, she puts the left hind leg of the goat between her right thigh and calf. Goat-milk is drunk, added to food, or made into butter and cheese as described in detail p. 221 ff. Both in Ayr and in Ahaggar it is claimed that goats under favourable conditions yield about two litres of milk a day. But this is to be considered the maximum yield obtained only from goats with young kids when fresh-green annual pasture is available.

*233 [262] Meat is not a staple food among the Tuareg. Most of them are reluctant to kill their animals except at certain feasts. But most meat eaten by the Tuareg is goat's meat. In Ayr I was told that some pastoralists keep their goats as well as other domestic animals as long as possible, that is until the animals die a natural death. However, the Tuareg are generally not so irrational. They say that goats may live for about twenty years, and that they are capable of bringing forth kids and yield milk until 15 years old. When goats have reached that age they are sold or killed, but many Tuareg prefer for obvious reasons to keep their milk-goats only to an age of eight or ten years. There is a limit to the number of goats that can be bred by the members of a small camp, because it is not possible to have more than a certain number of goats in one and the same flock, and there will not always be sufficient labour to tend several flocks. Therefore it is evidently preferable to substitute old milk-goats with

*233 their flocks, but it is, on the whole, inproper to show any interest in their animals. Some nomads will
128 even claim that although they know all their goats by sight, they do not know, or never mention, the
[172] total number of their animals, as this is believed to bring bad luck. This belief is probably explained
by the idea of the evil eye. To this may be added that it is difficult to judge the ownership of goats
by merely watching the flock of a household which may also have animals grazing on other pastures.

*233 According to official statistics for 1948, the average number of goats per household among the
Kel Ahaggar is fifteen (Capot-Rey 1953a, p. 265). This figure is probably derived from the tax lists,
and it seems to be much too low – even when households of slaves and sedentary agriculturists are
included. Lhote has stated that the number of goats per person, under ideal conditions, is 35–40. If
they increase above this, the surplus is slaughtered or sold to the sedentary peoples of the oases (Lhote
1951a, p. 9). This latter figure for ownership of goats under ideal conditions is probably true for the
*233 more wealthy Tuareg of Ahaggar. Thus among the vassal Tuareg of the *Dag Ṛali* tribe many house-
565 hold are said to possess 100–200 goats, but this tribe is considered extremely rich in goats, and households of other tribes will not generally own so many animals. From rough calculations made in a
great many camps of vassal Tuareg, and Tuareg of the *Iseḳḳemaren* class, I estimate that households
on an average possess 60–70 goats when pastures are not too badly developed, for it must be emphasized that the size of flocks changes with climatic conditions. For the sedentary agriculturists of
Ahaggar I estimate, on the basis of calculations made at Amsel, Abalessa, and Taṛhawhawt, that a
household possesses on average 15–20 goats.

● 234 In good years the amount of milk products supplied by a flock of 60 goats is rather considerable.
This is clear when we consider the fact that a goat, during the period of three to four months in
autumn and early winter when pasture of annual plants is green, will yield up to two litres of milk
[272] every day. When annual pasture gets dry the milk yield decreases but milk is still comparatively plentiful
and important for food all the winter. In summer, however, there is little milk for reasons already
*233 referred to, and in dry years goats, even in the cold season, yield little or no milk. The flocks decrease
during such periods of drought and some nomads may even lose most of their animals. During my
stay among the Tuareg of Ahnet and Ahaggar from November 1954 to April 1955, goats suffered
much from lack of fodder. In many camps one or two goats died of hunger every day.

*233 The Ahaggar Tuareg cannot subsist entirely on goat-breeding because severe droughts occur
731 frequently in their country. During drought-periods the goats are so to speak valueless as subsistence
for the nomads. But it is remarkable that goats emaciated in consequence of severe drought quickly
grow fat and start to yield milk once rain has fallen abundantly enough for the regeneration of pastures.
In connection with this we shall point to another characteristic of goat-breeding: The animals have
a very short gestation period, and the kids are fully grown for mating in one year. And as one goat
may have four kids annually with free mating, a household, which has lost most animals during a
drought, will be able very quickly to re-establish a flock large enough for its needs.

*233 Goats are also highly important for the subsistence of the pastoral Tuareg of Ayr. I do not know of any statistic material about the size of flocks in this area, but for Tuareg of Kidal (Adṛaṛ-n-Foṛas) flocks are officially estimated at 74 goats and sheep per household (Capot-Rey 1953a, p. 269), and this region is environmentally related to Southern Ayr. The *Kel Ferwan* Tuareg say that a household

[Text continues on p. 45]

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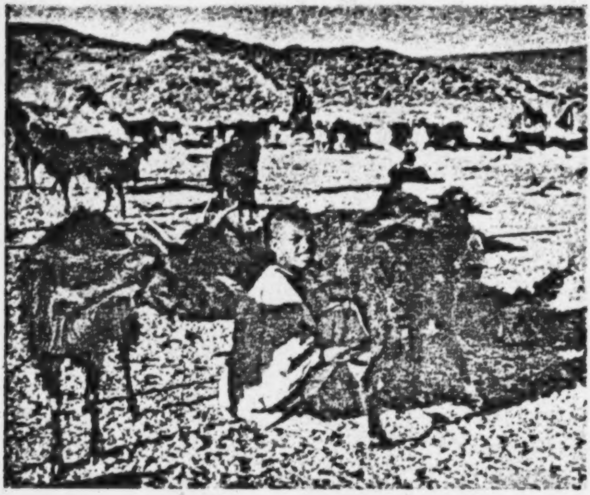

Fig. 23. Slave boy milking goats – a task which is normally performed by women. The milk-bowl is held in the left hand, and the milking is done with the right hand, while the goat's left hind leg is held fast beneath the right upper arm. Ahaggar, the *Aġuh-en-tehlé* tribe.

GOAT MILKING

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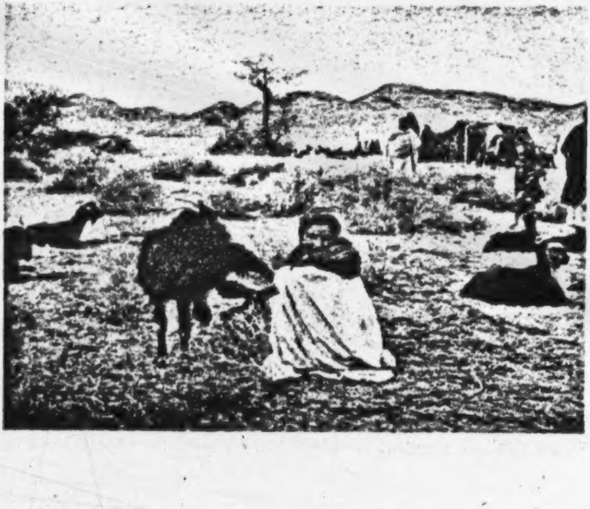

Fig. 24. Tuareg milkmaid milking a goat as described Fig. 23. Ahaggar, the *Aġuh-en-tehlé* tribe.

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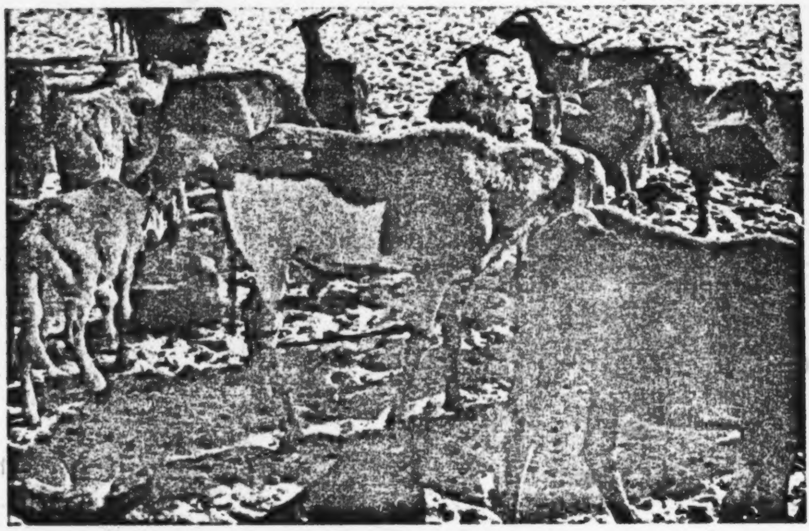

Fig. 25. Ram prevented from mating by means of a cord (*urun*) tied around the foreskin of the penis and also around the scrotum. A longitudinal hobble-rope (*amahus*) also serves to prevent copulation.
Tasilé-n-Ajjer, the *Kel Terurit* tribe.

435 the price of sheep for slaughtering is very high compared with the price of goats. Sheep are also con-
282 sidered the proper animals for Islamic sacrifices, and it should be added that sheepskin is considered
237 very suitable for the manufacture of certain articles (cf. p. 288 & p. 298; Figs. 232, 240).

825 The Tuareg say that sheep are more "stupid" or less "intelligent" than goats. Sheep do not respond to their names, they get more easily lost during grazing, and they do not return to the camp by themselves. It is difficult to herd sheep if there are no goats in the flock. Among the Tuareg, as elsewhere in North Africa, sheep and goats are normally mixed in one flock. The goats then always march at the head of the flock, obeying the orders of the herdsman, while the sheep follow behind. It may happen, however, that goats and sheep become divided during grazing, as goats march too quickly for sheep to follow them, while on long journeys sheep show more endurance than goats.

The techniques of sheep-breeding are largely identical with those of goat-breeding mentioned above.
●234 It should be observed, however, that goats can be milked without any difficulty whether they have kids or not, while this is not always so with sheep. It is said that they are more easily milked when they have lambs. Both in Ahaggar and in Ayr I have noted more than once that a good milch-sheep which had lost its lamb was given another lamb belonging to a sheep yielding less milk.

*233 Sheep can lamb until an age of seven or eight years, but it is considered appropriate to kill them for

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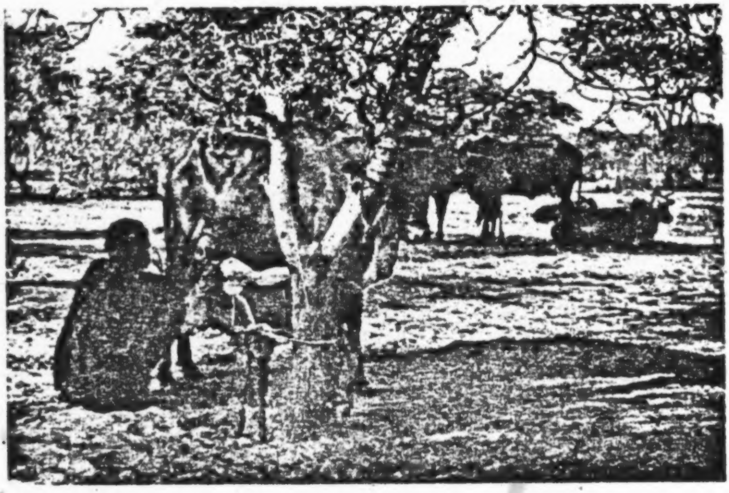

Fig. 29. Milking a cow. The calf is attached to a tree by means of a cord (*témetrek*) around its neck, the mother cow being attached to the same tree with a cord (*aγan*) around its horns.
Ayr, Tuareg of the *Kel Ferwan* group.

*233 Zebus are able to cross the barren desert country of the Sahara in winter, and even with so hot a temperature, as that prevailing at the end of April, I have met Ayr Tuareg of the *Kel Tédalé* tribe leading zebus from Northern Ayr to Tamanrasset in Ahaggar.

The Ayr Tuareg seem to admit that they have always had zebus, but they say that in the past they had very few cattle. Nowadays there are zebus in so to speak all camps and villages of the Massif and in the plains to the west of it. At the village of Iferwan sedentary farmers possess three to four animals per household, and figures are much bigger for households of true pastoralists. It is quite normal for a nomadic household to possess a dozen zebus, and this is true even of pastoral Tuareg roaming in the northern outskirts of Ayr where precipitation is lower than in the south.

In fact zebu-breeding is a very profitable industry to the nomads, the more so as very little work is connected with it. The animals leave the camp early in the morning to return again entirely by themselves in the evening before darkness. They are never accompanied by herdsmen as there are no beasts of prey strong enough to attack them nowadays. [171] I have met Tuareg who were evidently very fond of their zebus, but they never showed the same interest towards their cattle as do the Fulani, who always accompany their herds. During grazing Tuareg zebus normally roam freely, but certain animals which are difficult to get hold of are provided with a cord (*aγan*) around their horns to which cord is attached [366] a long piece of wood trailing on the ground. When oxen are driven to the market place (at Agadez or Ingal) for selling, or Ingal) for selling, they are also frequently provided with a wooden prong (*aburl*) loosely attached 233* around one foreleg to prevent them running away. I have never seen this practised among the Fulani [171] who have much more control over their cattle than have the Ayr Tuareg.

Cows continue to bring forth calves and yield milk until they are about 15 years old, and the duration of their life is estimated at about 20 years. But it is considered appropriate to keep milch-cows until they are ten or twelve years old when they should be sold or killed. The period of gestation for cows is about ten months, and there is no regulation of mating. The Tuareg say that cows will be on heat and mate again shortly after the birth of a calf, and that milk-yielding does not stop until five months after mating. Free mating of the cows agrees well with Tuareg interests as prices of calves are high. [435]

Milking of cows takes place twice daily and is generally done by women – in rare cases by men. 234● Milking is performed as follows:— Just before the herd returns from grazing in the evening every [462] calf is firmly attached to a tree by means of a cord (*témetrek*) around its neck so that it cannot reach the udder of the mother cow. When milking is to take place the mother cow is attached to the same tree by means of a cord (*aṛan*) around its horns. The calf's rope is now loosened and it will immediately start to suck while the milk-maid fastenes another rope or cord (*akarab*) around the hind legs of the cow. When this is done the calf is attached to its tree again, and milking begins. The milk-maid squats at one side of the cow (generally at the right side) holding the large milking bowl (*akabar*) (Fig. 37) between her legs and knees, and milks with both hands (Fig. 29). When the milk-maid has taken the milk she wants she releases the calf to let it drink what is left in the udder, but the calf is thereupon attached to its tree again in order that it may not suck during the night. Before the cows leave the camp in the morning milking is performed again as just described, but it may happen that the cows leave for grazing already during the night, and they are then not milked again until next evening. Tuareg who possess a great many calves may guard them within a so-called *zeriba* (*afaraẓ*) made of [417] thorny acacia boughs.

Most cows will not yield milk unless they have their calves close to them. If a cow loses its calf it [237] may be replaced with the calf of another cow so that milking can be done, but it is also common to use the so-called dummy-calf (*azeyuz*) made from the dead calf's skin stuffed with hay. This puppet is then set close to the cow which is deceived by it. It feels that its calf is standing by, it licks the skin, and milking can then be done without much difficulty.

The dummy-calf is not used by the zebu-owning agriculturists of Ahaggar, though I have met one of these *Ḥarratin* (*Izeggaṛen*) who had once made a calfskin-puppet after he had seen the method practised among *Ifoṛas* Tuareg at Kidal. The method of blowing into the cow's vulva is known to the Ayr Tuareg as *askuf*; it is used particularly for cows which are difficult to milk shortly after the birth of a calf. During migrations, when young calves march together with the mother cows, suckling is prevented by means of a piece of dum palm leaf attached around the calves' mouths. Such an attachment known to the Ayr Tuareg as *adabaṛ* may be used also for other domestic animals.

Weaning of calves takes place according to one of the following methods:— (1) *ikembar*, that is 233* cuttings made with a knife in two or three places on the bridge of the calf's nose. The wounds of these cuts hurt the calf when it tries to suck, but the method is effective only for a very short period until the wounds have healed. On adult animals the scars of these wounds appear as small bumps (Fig. 30).

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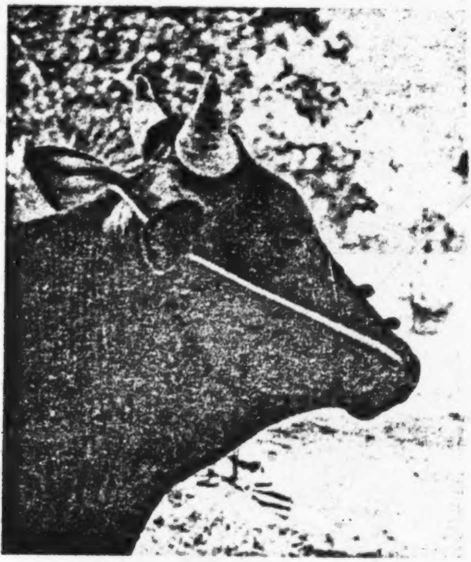


Fig. 30. Young zebu ox with *ikembar*, that is cuts made with a knife on the bridge of the animal's nose, and with a cord (*asabar*) placed through the nostrils. Ayr, sedentary *Kel Ewey* Tuareg near Agadez.

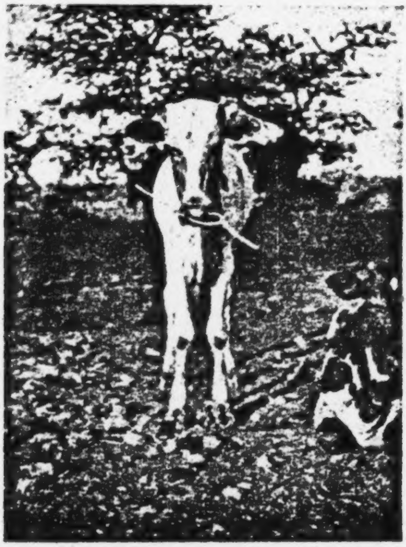
(2) *tabellut*, that is a small pronged stick about 40 centimetres long placed through the nostrils of the calf which is thus prevented from reaching its mother's udder (Fig. 31). (3) *ikemban*, that is two small pointed sticks crossing each other and attached over the calf's nosebridge. When the calf tries to suck it hurts the udder of the mother cow which will kick the calf away. I have only seen this device once in Southern Ayr, and I am not quite sure that the term mentioned is correctly spelled, as I did not take it down in *tifinaṛ*. (4) *akimbab*, that is a muzzle. It is not in general use among the Ayr Tuareg though they know of it. It is in current use among the Tuareg of the plains west of the Massif (Tamesna) where I have seen it among the *Iregenaten* Tuareg, who politically belong to the *Kel Ṛela* drum-group of Ahaggar (Fig. 32). I have seen the same device also known as *akimbab* among the *Kel Tahabanat* of the *Western Iwllemmeden*. Similar muzzles are used among the *Iwllemmeden* around Meneka (Musée de l'homme, nos. 36.44.50 & 41.19. 1111–1114) and also among the Tuareg of Adṛaṛ-n-Foṛas (Musée de Neuchâtel, no. 49.2.39). – These are the weaning devices used in Ayr, the method most commonly applied being that known as *tabellut*, the small pronged stick passed through the calf's nostrils. [184] [631]

● 234 [262] Cow's milk is drunk fresh, added to food, or made into butter and cheese according to methods described in a later chapter. The Tuareg say that an extremely good milch-cow yields up to seven litres of milk a day. This agrees with Doutressoulle's statement that cows of the *Azawaṛ* breed yield six to eight litres daily at the beginning of their lactation period, while at the end of this period the daily

yield decreases to about two litres (Doutressoulle 1947, p. 104). It should be added that, as for other 234 ●
domestic animals, the daily yield of milk depends very much on the conditions of pastures, and cows always yield little milk when pastures are dry – even at the beginning of their lactation period.

Bulls are frequently castrated two or three years old to be used for riding and transportation. Oxen 492
are used for this purpose particularly among the Tuareg of the plains towards the south and west, [232]
while most pastoralists of the Massif almost exclusively use donkeys and camels. Oxen are ridden [184]
without a saddle. The rider sits on the back of the animal which is covered with a blanket or a piece of cotton as in Ahaggar. The animals have a cord (*asabar*) placed through their nostrils, but plaited halters (*amerar*) are also used for riding oxen.

The Tuareg have terms to cover the age and sex of their cattle, and they also have a certain number 233*
of colour terms; but they say that there are very few colour terms for cattle (about ten terms according 192
to Tuareg of the *Kel Ferwan* group). They explain this lack of colour terms by the fact that cattle did [433]
not play any important rôle to their subsistence in the past. Cattle do not respond to their names, but [178]
some of them will come to the camp on the utterance of a certain cry (cf. p. 135).



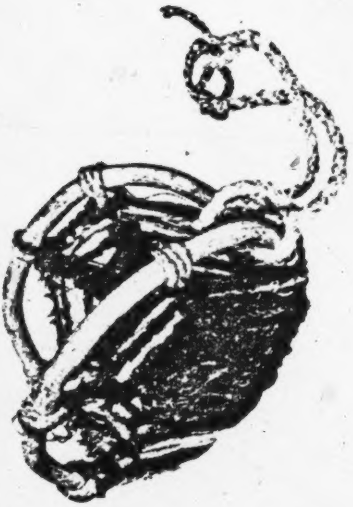


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Fig. 31. Zebu calf with a pronged stick (*tabellut*) put through its nostrils to prevent sucking. Ayr, the *Isakaranan* tribe.

Fig. 32. Muzzle (*akimbab*) to wean zebu calves. The muzzle is made of boughs of the *tamat* acacia (*Acacia flava*) [824]
which form a frame covered with cords of *tamat* bast and with cotton strips. It is fastened to the head of a calf with a piece of cord plaited of goat's hair, and the attachment is done in such a way that the calf can graze without difficulty though it cannot suck. Tamesna, Ahaggar Tuareg of the *Iregenaten* tribe. Dimension: 0.17-0.19 m high. (N. M. G. 6661).

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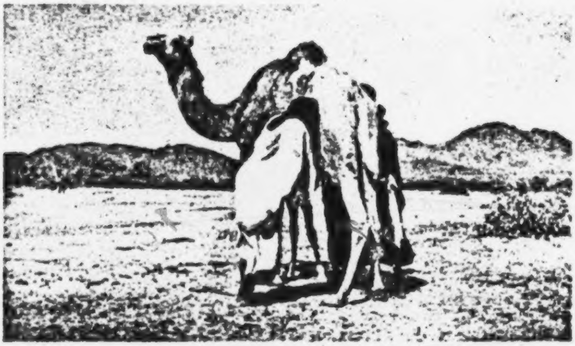

Fig. 36. Two Ayr Tuareg milking a she-camel with the colour name *tawinaḳ*. Ayr, the *Imezzureg* tribe.

They draw out the placenta (in Ayr known as *t'imidin*) by the attachment of a heavy stone to the membrane (*abayor*). It is also common a few hours after birth to draw a little milk from the mother camel and pour this milk into the calf's mouth in order that the new-born animal may be able to stand upright and suck its mother quickly. When this has been done it is normal to bleed the mother-camel. Some milk drawn on the day a she-camel has borne a calf is frequently consumed by the Tuareg (cf. *éderes*, p. 221), but with this exception the new-born calf is allowed to drink all its mother's milk for the first days after birth. The period during which the calf sucks freely varies. It depends on the yield of the mother-camel and is also determined by the amount of milk available to the owners from other animals. Milking may exceptionally start already four or five days after birth, but this is not normal. The calf is frequently allowed all milk for a fortnight, or even for a whole month. In Ahaggar when pastures are very dry it is quite normal not to milk a mother-camel at all for a still longer period. 233* [272] [234]

The entire suckling period, that is the period in which the calf is allowed to drink part of its mother's milk, including the short period when it sucks freely, also varies. But here there is one main rule: a calf is allowed to suck as long as its mother-camel is milked, for she-camels, like cows, do not generally yield milk unless they have their calves close to them. It is normal to mate a she-camel about one year after the birth of a calf. She will then yield milk for about six months after mating, so that the total suckling period is about 18 months, at the end of which period the calf will be allowed very little milk. If a she-camel is not mated so soon it may yield milk for a longer period, and the suckling period may even be up to about two years when the calf is a grown animal almost as big as its mother. 233* 234

There are various methods to secure milking in case a camel has lost its calf. The dead calf may be substituted by another calf, but the dummy-calf is also used with she-camels. This device is known as *ahayoy* (Ahaggar), or *azeyuz* (Ayr). Both in Ahaggar and in Ayr it is claimed that some she-camels can be milked without their calves if their udder is patted in a particular way with the hands – which treatment is known to the Ayr Tuareg by the name *ewlewl*. The method of blowing into the vagina described above for cows (p. 51) is never employed with she-camels. But there is another method for 234

[text continues on p. 59]

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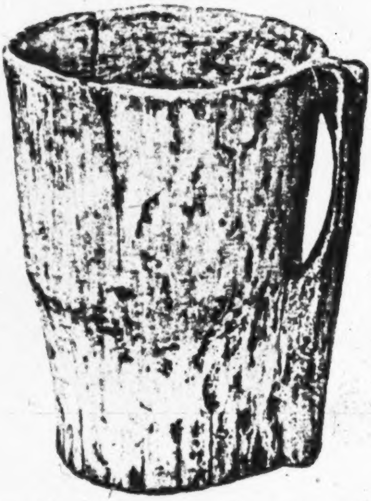

Fig. 37. Wooden milk-bowl (*akabar*) of the type used in Ayr not only for she-camels but also for cows, sheep, and goats. It is carved out of wood of the *turza* tree (*turha* in Ahaggar) (*Calotropis procera*) by a blacksmith. Ayr, the *Imezzureg* tribe. Dimension: 0.285 m high. (N.M. G. 6662).

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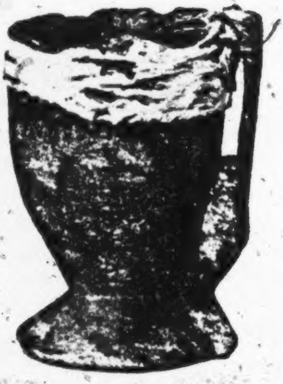

Fig. 38. Wooden milk-bowl (*akabar*) of the type used for she-camels in Ahaggar. It was introduced to Ahaggar from the south where it was made by an Ayr blacksmith from wood of the *turha* tree (*Calotropis procera*). The cracked brim is mended with a piece of raw camel hide. Ahaggar, the *Ağuh-en-tehlé* tribe. Dimension: 0.240 m high. (N.M. G. 5822).

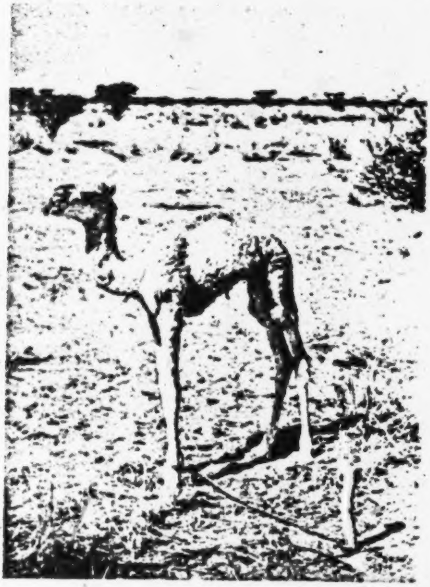

Fig. 39. A very young camel calf tethered in the camp by means of the *témdit* rope depicted below (Fig. 40). Tamesna, Ahaggar Tuareg of the *Iregnaten* tribe.

she-camels which are difficult to milk because they will not allow the calf to suck. The method has 234 been described to me by Tuareg of Ayr. It is named *arazak* and is as follows:— Fresh camel-dung is put into the nostrils of the mother-camel, and its nose is thereupon pierced at three places with an [412] awl a hole being made in each nostril and one hole between them. A cord of dum palm leaf is thereupon drawn through these three holes so that the nostrils are firmly closed, and the animal can consequently breathe only through the mouth. It is said that a she-camel which has carried this bandage for one day will be fond of its calf and will allow it to suck so that milking can be done.

Milking of she-camels is usually done twice a day, early in the morning and very late in the evening. In Ayr certain Tuareg milk their she-camels several times during the day, as the animals generally graze close to the camp and frequently come to the tents to see their calves. Milking between the two proper milking times may also be done with other domestic animals in Ayr if milk is needed for some purpose or other during the day, but it is practised particularly with she-camels, as milk gathers in the udder of these animals very quickly after milking.

Milking of she-camels is done by two men standing at the sides of the she-camel and leaning their [462] heads against the animal (Fig. 36). One of the men holds the large wooden milk-bowl *akabar* (Figs. [415] 37-38)

[text continues on p. 61]

37–38) and milks only with one hand, but the milk-bowl may also be held by a woman or a boy so 234
that both milkers have two hands free. If men are absent from the camp, milking may be done by [462]
women though properly this is the task of grown men. Certain she-camels are very difficult to milk so that milking should be done as quickly as possible. If a she-camel is very restless and therefore difficult to milk it is customary to bend up its right foreleg and attach it in this bent position to its left foreleg before milking is done. This method is known to the Ayr Tuareg by the term *ésemmetil* (cf. Fig. 35).

The Tuareg have various devices to prevent camel calves from drinking more than their proper 233*
share of milk. In Ayr and also among the Ahaggar Tuareg of the Tamesna region it is common to keep the young calves tethered by means of a particular cord (*témdit*) fastened to the calf's forelegs (Fig. 39–40). The calf is not allowed to follow its mother during grazing, and in the night when all she-camels rest in the camp they are kept lying on the ground so that the calves cannot suck them. When young calves are tethered in the camp they are fed on fresh annual plants collected for them by [824]
the Tuareg. When calves grow older and plant food constitutes their most important nourishment,

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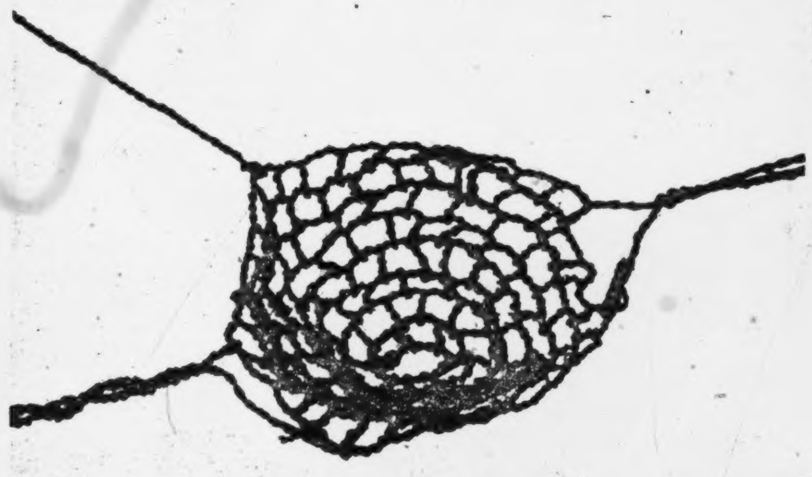

Fig. 41. Plaited pouch (*abeğu*) to prevent the sucking of camel calves. It is made of goat's hair, and it has three cords for attachment to the hind part of the she-camel so that the pouch covers the udder. Ahaggar, the *Ağuh-en-tehlé* tribe. Dimension of the three cords: 1.19, 1.05, and 0.97 m. (N.M. G. 5198).

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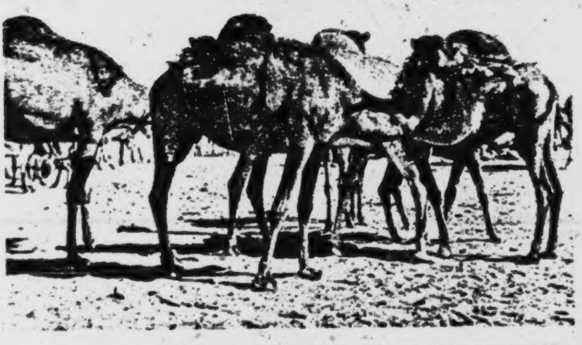

●[234] Fig. 42. She-camel provided with the plaited pouch (*abegu*) which covers its udder. The pouch is attached as follows:— A cord is tied around the body in front of the animal's hump while another cord runs along the back at both sides of the hump to pass under the tail. The three cords which form part of the pouch are tied to the tail cord in front of the hind thighs and at the tail. To milk a she-camel carrying a pouch around its udder the hind pouch-cord fastened [illegible] the animal's tail is untied. Tasilé-n-Ajjer.

*233 they are hobbled by means of a cord (*téffart*) attached around their forelegs (p. 72, Fig. 45b–e) and [286] are kept away from the mother animals during grazing in day-time. In Ahaggar as well as elsewhere in Northern Tuareg country suckling of calves are normally regulated by another method, namely a plaited pouch (*abegu*) which covers the udder of the mother camel, and the calf can thus be allowed to graze freely together with its mother (Fig. 41–42). This device is known to the *Kel Ferwan* Tuareg of Ayr as *ébeyembey*, but though they know it by name they do not use it. They say, however, that it is in use among the *Kel Ewey* of the Ayr Massif.

The plaited pouch just described also serves as a means of weaning half-grown calves, but there are other weaning methods, namely the following:— (1) *ikembar*, that is cuttings on the bridge of the nose as described above for cow calves (p. 51). In addition to these cuttings, the scars of which form small bumps, it is common to cut the calf also under the chin, the visible result of such a cut being a hanging patch of skin. This method is known both among the Northern Tuareg and in Ayr, and it is, I believe, nowadays carried out mainly for aesthetic reasons as the bumps and the hanging patch of skin adds, in Tuareg opinion, to the beauty of riding camels (Fig. 43). In fact, the cut made under the chin does not seem to hurt a sucking calf, and this cut is not made on cow calves (cf. Fig. 30). – (2) A method [114] which is described by Cauvet from the oasis of In Salah may perhaps also be known to the Northern Tuareg though I have not recorded it. It consists of a thorn put into a patch of skin cut loose on the

bridge of the nose of a calf, so that it hurts its mother when it tries to suck (Cauvet 1925, I, p. 359). – 233*
(3) *akimbab*, that is a plaited muzzle which allows the calf to graze, but prevents it from sucking. I
have been told both in Ahaggar and Ayr that such muzzles are used for camel calves, but apparently
they do not constitute a normal weaning method. – (4) *asedres* or *ameru* are said to be synonymous
terms for the weaning method generally adopted among the *Kel Ferwan* Tuareg of Ayr. The method
is as follows:— The upper lip of the calf is pierced on both sides of the harelip so characteristic of all
camels. A piece of thin root of the *afagag* acacia (*Acacia Raddiana*) is drawn through these holes so [824]
that the ends of the root protude at both sides, and a knot is made at both ends that the root will
not fall out. These knots hurt the udder of a she-camel when the calf starts to suck, but this is not
the real idea of the device. For the root-piece keeps the pierced holes open and the calf is therefore
unable to suck at all.

A she-camel may yield about ten litres of milk at the beginning of its lactation period, but at the 234
end of this period it does not yield more than two or three litres even with good grazing. The yield is
always dependent on grazing conditions. Thus during my stay in Ahnet and Ahaggar 1954–55, a
Tuareg who owned about twenty she-camels acquired only two litres of milk a day in all from these
animals. But conditions of camel-breeding are much better in Ayr and in the southern plains where [433]
she-camels are tolerably good milk-yielders most of the year, and camel's milk is therefore very important
to some pastoralists of these regions. Camel's milk is drunk and not generally used for food [272]
in other ways. It is much esteemed by all Tuareg, who claim that it possesses a particular power and
gives strength. It is never stored in the shape of butter or cheese. The Tuareg of Ahaggar and Ayr [262]
never eat camel's butter which they consider possesses a poor taste, and, besides, it is very difficult
to churn. They make butter of camel's milk only when butter of milk from other domestic animals is [302]
lacking for the greasing of the hair. Both in Ahaggar and in Ayr butter is then churned by the men
in a rather peculiar way:— A skin bag containing an amount of camel's milk is attached to the riding [415]
saddle of a camel which is then ridden at very fast speed for some time. But even with this method,
it is said, camel's milk gives very little butter, and it is also definitely stated that the milk cannot be
used for cheese-making. These Tuareg statements seem to be confirmed by analyses of veterinaries, [114]
who claim camel's milk to contain very little casein, and it has been proved difficult to separate
butter from camel's milk (cf. Cauvet 1925, I, p. 707 ff.).

She-camels can mate and yield milk until an age of about 25, and their average length of life is 233*
estimated by the Tuareg at about 30 years. But pastoral Tuareg do not generally keep their camels
until they die a natural death. In Ayr I was told that she-camels more than twenty years old should
be sold or killed. Most Tuareg sell their old camels in the oases of the Central or Northern Sahara [432]
where a large population of sedentary farmers is constantly yearning for meat. Very few camels are [266]
killed by the butchers of Agadez, where meat from oxen, sheep, and goats is always available and [262]
fairly cheap, but a great many old camels are slaughtered at the market places of the oases further north.

Pastoral Tuareg of Ayr very rarely kill their own camels to eat them. They will slaughter a camel 262
which suffers from some severe disease as all animals dying by accident or from disease are unlawful
to eat. However, there are also some Ayr Tuareg who will never eat camel's meat. They say that they [261]
would feel very sick at heart were they to do so, and some Tuareg even say that they would vomit

778 Religious beliefs also interfere with Tuareg stock-breeding and create usages of an irrational kind.
[231] Thus the Tuareg, like other North African peoples, firmly believe in the mystic benevolent power,
[171] or benediction, known as *elbaraka*. This is a power that emenates from God. It is given by God to
[784] man and it cannot act unless certain taboos, or rather religious prescriptions, are followed. The bene-
[783] diction *elbaraka* is more than anything else hurt by impurity. Cleanness is an absolute necessity for
this good force to be sustained in the same way that a man cannot approach God through prayer if
[841] he be unclean. Women are considered unclean during their periods of menstruation and cannot, there-
[262] fore, then pray to God. They are also forbidden to drink the milk of domestic animals which have very
young kids, lambs, or calves, and they must not drink water which has been conserved in newly-
made skin-bags. These taboos are maintained in order not to hurt the benediction given the animals
778 by bringing it into contact with impurity. For the same reason milk taken from animals which have
784 recently brought forth young should not be given to strangers – they might be unclean and harm the
234 *elbaraka*. It is also believed that soil is an impurity dangerous to *elbaraka*, and milk must never be
spilt on the ground. Even when milk-bowls are cleaned with water, this liquid should be poured out
upon plants or stones, and never be spilt on the ground. Should this be done, God will withdraw his
elbaraka and the result will be severe periods of drought without milk. I have frequently heard Tuareg
ascribe the lack of rain and the dry pasture – the lack of *elbaraka* – to the fact that somebody had spilt
milk upon the ground. This had caused God to be angry and to withdraw his benediction. Some Tuareg
have also said that *elbaraka* is harmed by a person who blows upon milk. When a man drinks milk
he must not blow away impurities before drinking but must remove them by means of a piece of straw.

*233 In the two groups of Northern Tuareg and also in Ayr it is considered very disgraceful for a person
577 who watches the animals away from camp to drink milk directly from an animal's udder. Some Tuareg
272 say that a man when staying alone among milk-yielding animals should not utilize their milk even if
he performs milking in the usual way. A person who breaks these rules is called *émenkes* or *émelded*
among the Ahaggar Tuareg, *émelded* in Ayr. The Tuareg say that there are some people, and in
particular many slaves, who do not follow this rule, and that they are despised if known to have
broken it. When two or more people are alone with a herd or flock away from the camp they can
freely utilize the animals' milk. And it is very normal for camel herdsmen to live with a herd of she-
camels in isolated places for long periods. They then live almost exclusively on camel's milk taken
from the herd they guard.

272 Certain usages connected with stock-breeding are rationally explained by the Tuareg. Thus when
they heat milk by means of hot stones (cf. p. 221) put into the milking bowl, they claim that this is
done in order that the milk shall not get dirty as would happen were it heated in an ordinary cooking
272 pot. Another custom which by other stock-breeders has been explained as being based upon magic,
262 namely the usage not to drink milk and eat meat at the same time, is also rationally explained by the
Tuareg. They say that there is no taboo on taking these kinds of food together, but it is very unwise
to do so because the mixture will act as a laxative and upset the stomach. Therefore, if a Tuareg has
drunk much milk he will not eat meat shortly afterwards, and if he has eaten meat he will not take
milk for some hours, though he may do so should ample water have been added to the milk. The
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234 Tuareg to my knowledge have no other special customs in connection with stock-breeding and milk
than those mentioned

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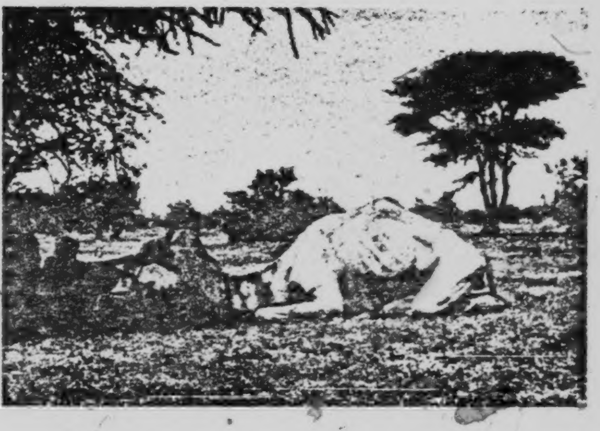

Fig. 95. A Tuareg feeding his riding camel with *afezu* grass (*Panicum turgidum*). Many Tuareg feed their riding animals with stems of this perennial grass – partly to obtain a docile camel for riding, partly to change its fodder which consists largely of acacias and annual plants. The photograph is taken near Agadez at the *akasa* season. Annual plants grow between trees and bushes (*afagag*, *Acacia Raddiana*; *ebezgin*, *Salvadora persica*; *tadent*, *Boscia senegalensis*). Ayr, the *Isakaranan* tribe.

234 than those mentioned. Thus they can use any kind of receptacle for milk and milking, and they do
415 not clean their milk-bowls with urine as is normal among certain East African stock-breeders, and,
237 perhaps, also among certain of the Fulani living south of Ayr. The taste of urine is detested by the
262 Tuareg, who know this taste all too well as the water drawn from pools and wells is frequently flavoured
237 with urine and the excrement of domestic animals. Nor is camel urine used by Tuareg women for
302 hairdressing as is done among the Arabs, but it is said that it may have a medical value in curing
752 wounds. The custom of drinking blood has been mentioned above (p. 122 f.) and will be described later (p. 235).

*233 The Tuareg apparently have comparatively few superstitious usages in stock-breeding, which is
232 mainly to be considered rational. We have seen that stock-breeding is adapted to environment, and we have also mentioned that there are veterinary methods which doubtless have their origin in considerable knowledge of the anatomy and physiology of domestic animals. This knowledge forms one corner-stone of rational stock-breeding, and another is the very detailed knowledge of botany. In
*233
824 Ahaggar there are more than 600 different plant species for which the Tuareg have particular names, though a few related species are sometimes known by one and the same name. Every Tuareg know about the ecological conditions of these plants, and he knows exactly their fodder value for domestic animals. He knows that certain plants form excellent fodder for all domestic animals, but he is also well aware that the different types of stock have different needs, so that certain plant species are valuable for camels, other species for other domestic animals.

231 The Tuareg are occasionally cruel to donkeys, and to dogs, but they take the greatest care of all other domestic animals to ensure their wellbeing and reproduction. Women bring acacia pods or tender annual plants to kids, lambs, and calves, and to sick animals which remain in the camp. On
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*233 long trading expeditions, when the camels have little time for grazing, some Tuareg will walk along

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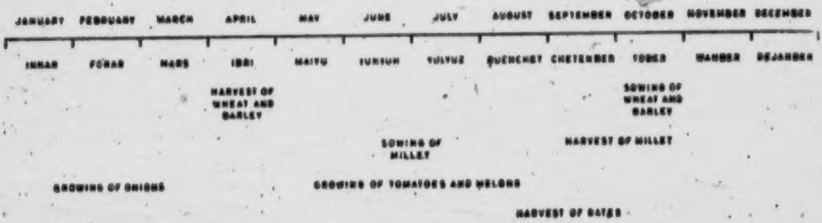

Fig. 139. Horticultural calendar from Ahaggar.

The Tuareg and the negroid agriculturists have a lunar calendar of twelve months corresponding to the Arab calendar, but a lunar calendar has no practical value for the indication of seasonal agricultural activities. The Julian Calendar is known to some people of Ahaggar as well as to other Berbers of the Sahara and the Atlas. Tuareg names of Julian months are given above. Very few people in Ahaggar know the exact beginning and the end of the twelve Julian months, but a few names are used as seasonal terms: *innar* = "midwinter", *mars* = "beginning of spring", *ibri* = "early harvest" (of wheat and barley), *maiyu* = "beginning of summer", *tober* = "late harvest" (millet).

241 which no definite figures can be given, while the yield of fruit trees growing in the garden plot does
[423] not necessarily belong to the agriculturist. These trees frequently belong to pastoral Tuareg.

433 I think it can be estimated that an agricultural household with its own garden produce about a
262 thousand kilos of vegetables food products annually for its private use. We can add that though the
members of an agricultural household live mainly on vegetable food products they also acquire a
certain amount of food from livestock, which normally comprises a few goats and sheep, and perhaps
one or two zebus. Conditions of stock-breeding are not always favourable to people who live continuously on the same spot, but it is advantageous to the agriculturists of Ahaggar, who live close to
valleys with some pasture, that they are able to feed their animals on green garden products when
pasture is badly developed and thus avoid the disaster of a drought. It is also an advantage to most
agriculturists that they do not have to water their animals which can drink freely from the irrigation
canals. The agriculturists can kill a few goats or sheep annually, they obtain milk and a little butter
[234] to be used mainly as a sauce for bread and porridge, and they make cheese of the *awles* type (cf. p. 224),
but they never make cheese from fresh milk as do many pastoral Tuareg when milk is abundant. The
agriculturists also breed fowls and pigeons, and some of them have an important meat supply from
hunting with steel-traps (hares, jackals, fennecs, and ravens). Collecting, on the other hand, is of little
or no value to irrigation farmers of Ahaggar.

241 The economic position of agriculturists who work without any particular obligations towards
466 pastoral Tuareg is tolerably good. It is less favourable to those who grow winter crops also on behalf
[423] of the Tuareg, as do most cultivators. Some of them irrigate the garden plot with water raised from
[511] wells by oxen which may belong to the cultivator or to the Tuareg. But most agriculturists who work
241 for the pastoral Tuareg irrigate by means of *foggara*. It is very strenuous work to dig a *foggara* canal
312 and co-operation is needed not only for this but also for the maintenance of the whole irrigation system.
466 The gardens are individually tended by the agriculturists, who co-operate in the *foggara* work under
476 the leadership of a headman known as *amrar n efeli*, that is "chief of the *foggara*". This headman is

Food Preparation

It is natural to open this chapter on food preparation with a description of the use of milk (*akh*) among 234 pastoral Tuareg. The milk which serves as nourishment for the Tuareg derives from goats, sheep, 262 cows, and camels. Milk of all these animals is frequently drunk fresh without any preparation, and this is generally the case with camel's milk, which is not fitted for churning butter or for the manufacture of cheese (cf. p. 63). Milk of goats, sheep, and cows is used for butter and cheese, and is added to various dishes to be described below.

Fresh milk, which is known to the Ahaggar Tuareg as *akh kefayen*, is sometimes heated by means 252 of hot stones (*idaṛen* in Ahaggar; no particular name in Ayr). The stones heated are then put directly into the wooden milking bowl. The Tuareg practise this method mainly in winter as they do not like to drink cold milk, but milk is heated all the year round in this way with milk of animals which have just brought forth kids, lambs, or calves including camel calves. The milk taken from a mother animal until about twenty four hours after the birth of kids, lambs, or calves is known to the Tuareg of Ahaggar and Ayr as *édeṛes*. It is very rich and when it is heated by means of hot stones it becomes very thick forming almost a kind of cheese which is highly esteemed by the nomads. The milk of sheep and goats is considered *édeṛes* for two days after the birth of kids and lambs, though this term should properly be applied only to milk taken the first day after birth. The main reason for using hot stones for milk heating is said to be that milk does not get dirty in this way as it does if heated in earthenware pots over the fire (cf. p. 126).

262

Sour milk (*selay* in Ayr) is consumed mainly by the Ayr Tuareg, who conserve it in skin bags and [251] especially in calabashes, for which reason this sour milk is also known to the Ayr Tuareg as *akh n* [415]* *ezenu*, that is "calabash milk". The milk is often left about twenty four hours for souring, and it is [252] then placed in a very cool place in order that it may not turn into junket which is not eaten by the Tuareg.

Both in Ayr and in Ahaggar the Tuareg may add water to fresh milk (cf. p. 126), and the Northern Tuareg also add water to buttermilk (*akh n agiwir*). This mixture of water and butter-milk is in high [484] esteem among the Northern Tuareg, and camel riders frequently carry it with them in a special skin- [415]* bag, known as *tasufra* (Fig. 155), attached to the riding saddle. Butter-milk cannot be transported in this way if water is not added, for the milk, though already once churned, will become butter during the camel's march. The Ayr Tuareg do not drink butter-milk which is given to domestic animals, but this beverage is so appreciated by the Northern Tuareg that some of them will not drink fresh milk unless butter-milk has been added, a mixture known as *agerengefa*, *akh imsayen*, or *unsey*.

[p. 221]

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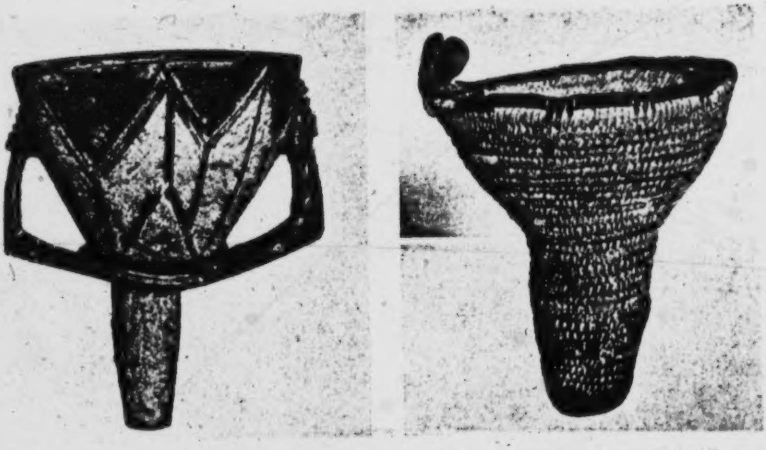

Fig. 153a–b. Tuareg funnels (*ésseges*, pl. *issegefa*) which are used for milk, butter, and for other liquids.
a. Wooden funnel ornamented by burning. Made by blacksmiths. Ahaggar, the *Dag Rali* tribe. Dimension: 0.210 m high. (F.M. 240).
b. Funnel plaited from straw of *taleggit* (*Juncus maritimus*) with the rim reinforced with leather. Made by Tuareg woman. Ahaggar, the *Dag Rali* tribe. Dimension: 0.135 m high. (F.M. 243).

234 *415 In Ahaggar the method of churning butter is as follows:— Milk of the morning yield is put into a skin bag (*émesesley*) (Figs. 156–157) to remain in this bag until next morning when churning takes place. During the hot season the *émesesley*, filled with milk, is placed in the shade of the tent in daytime, while in winter it is placed in sunshine, or close to the fire. Some milk of the evening yield is sometimes added to the morning milk in the *émesesley*. Before churning the milk thus soured is poured into the proper churning bag (*ağiwir*, *tanwart*) which is inflated and shaken. Churning bags may vary in size; when there is little milk to be churned a little bag is used and shaking is done holding it in the hands (Fig. 158). When milk is very plentiful, butter is sometimes churned in larger bags (*anwar*), which at one end is attached to a pole, while shaking is done by pulling the other end of the bag with one or both hands. When the milk is shaken in this way it forms small white balls of butter which 412 are removed from the churning bag with a wooden spoon (Fig. 191) when water has been added. This 262 white butter (*udi wa mellen*, or *tesendut*) is occasionally used for food without further preparation, 824 but this is not normal, for newly-churned butter is generally put into an earthen pot (*téṛirt*, or *ufrum*) (Figs. 186, 187a–b) together with parts of an annual plant known as *aynesnis* (*Chlamydophora pubescens*) (Fig. 160) to be heated over the fire. Some Tuareg also add meal of dried dates, or of horns of barbary 251 sheep. After heating, butter (*udi*) assumes a dark yellow colour. It is stored in containers made of *415 camel's hide (*tahattint*, *asağen*, *aṛaĥa*) (Figs. 161–162), or in Sudanese calabashes (*azenu*) (Figs. 326 163a–b). A particular metal pail (*éṛir*) (Fig. 164) manufactured by native blacksmiths is also used for

butter in Ahaggar,

butter in Ahaggar, and butter reserved for greasing the hair is frequently kept in a large horn (*isek*) 251 415* [302]
of barbary sheep (Fig. 165).

The Ayr Tuareg make butter (*wiji*) in much the same way as the Northern Tuareg. For churning 234 they use a skin bag (*anwar*), or a calabash (*azenu*), and they say that they prefer skin bags in winter, [415]* and calabashes in the hot season. Butter is heated or boiled immediately after churning, but the Ayr Tuareg do not add parts of plants, date flour, or the like. In Ayr butter is not churned as regularly as in the north. It is used mainly for cooking meat of thin animals, for a sauce which may be used [252] for millet porridge instead of milk (cf. p. 243 f.), and for greasing the hair. Among the Northern Tuareg [302] [262] butter is added to many different dishes and particularly to bread, which is eaten almost daily by many people. In years of drought the Ahaggar Tuareg get their butter from Ayr (cf. p. 212, 215), and the [438] Ayr Tuareg make much butter for export in such circumstances. They churn most butter from cow's

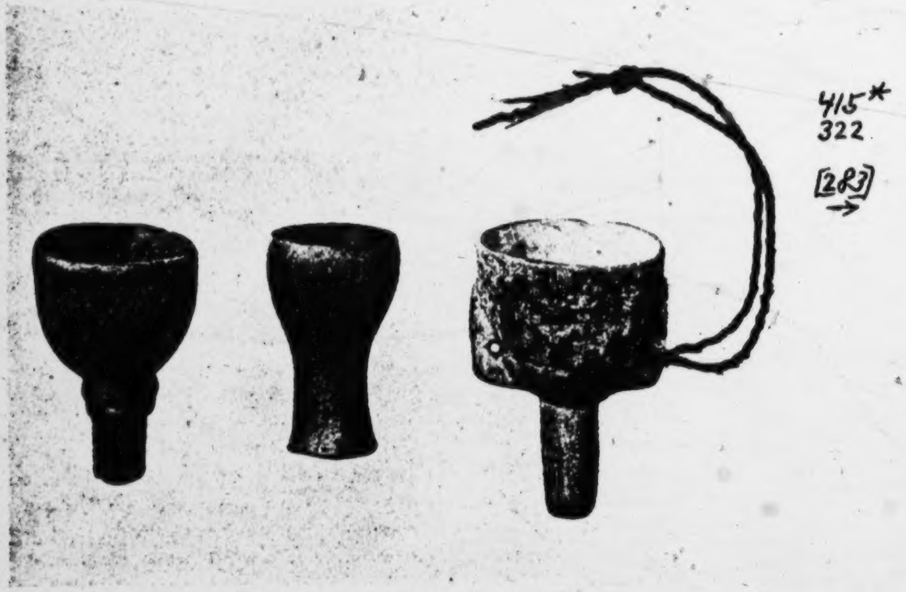

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Fig. 154a–c.

a. Wooden funnel. Made by blacksmiths. Ahaggar, the *Dag Ɣali* tribe. Dimension: 0.146 m high. (N.M. G. 5203).

b. Funnel consisting of a piece of calabash which derives from the south. Ahaggar, the *Dag Ɣali* tribe. Dimension: 0.131 m high. (N.M. G. 5202).

c. Wooden funnel with a strap of cord of goat's hair. Made by blacksmiths. Ahaggar, Olufsen's collection. Dimension: 0.175 m high. (N.M. G. 1.150).

All wooden funnels are cut from wood of the *taberekkat* tamarisk (*Tamarix aphylla*).

[824]

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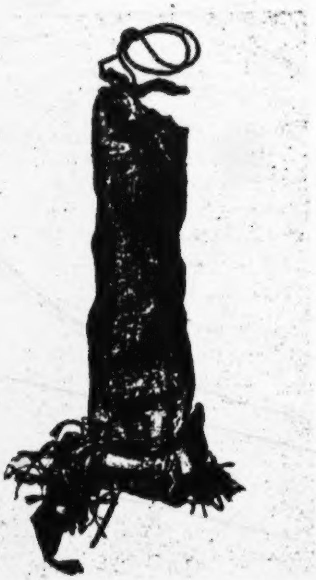

Fig. 155. Skin bag (*tasufra*) for the conservation of butter-milk on journeys. The bag is made from an entire goat-skin and has a handle of goat-hair cord tied to the skin patches of the hind legs. A leather handle is attached to the lower part of the bag which is ornamented with leather fringes, Ahaggar, the *Aguh-en-tehlé* tribe. Dimension: 0.77 m long without the fringes. (F.M. 89).

They¹ churn most butter from cow's

● 234 [262] milk, and this butter is not considered as delicious by the Ahaggar Tuareg as their own butter, churned mainly from goat's milk. – The use of wooden churning sticks by means of which milk is stirred in 234 an open container is unknown in Ahaggar and Ayr, so far as I know. Churning sticks are used in 412 other Tuareg groups. They are common among the Tuareg of Adṛaṛ-n-Foṛas (Musée d'Ethonographic, Neuchâtel, no. 49.2.44 & Musée de l'homme, Paris, no. 38.16.48) and among the *Iwllemmeden* 171 Tuareg and the Fulani (Musée de l'homme, Paris, nos. 41.19.411 & 41.19.1326).

234 [171] [184] [462] *[415] All Northern Tuareg, as well as the Northern Arab pastoralists and semi-nomadic Berbers and Arabs of the Atlas, make cheese from butter-milk, while this type of cheese is unknown among the Southern Tuareg and also among the Fulani. In Ahaggar butter-milk cheese (*awles*) is manufactured by women in the following manner:— Butter-milk is heated over the fire in an earthen pot (*téṛirt*, or *ufrun*) (Figs. 186, 187a–b) by which process the milk is divided into two parts, namely pure water and a curdled mass of milk (*akru*). This mass of curdled milk is placed in a special basket (*aragus*) (Figs. 167a–b) hanging from a tree or a similar object to sort out the whey. Thus there remains a mass of cheese in the basket, and this mass is formed into small round pieces to be left for drying. Butter-milk cheese is manufactured in this way by all Northern Tuareg who are thus able to obtain butter and cheese from the same milk.

234 Another type of cheese is made from fresh milk and is manufactured not only by the Northern

171 ¹[i.e. the Ayr Tuareg -- Analyst]

Tuareg but also by the southern groups and by Arab pastoralists of the Sahara; it is also known in 234
the Atlas, and is on the whole widely distributed in Northern Africa. This type of cheese is known to [171]
the Northern Tuareg as *takammart* and it is manufactured as follows:— Fresh milk is heated and [415]*
then poured into a large wooden bowl (e.g., *tarelut*) (Figs. 195a–b). The milk is curdled into a mass
of cheese by means of a rennet (*akammar*) consisting of the abomasum of kids that have never tasted
anything but milk. The curdled mass of cheese is pressed with the hands and with a piece of straw- [285]
mat (*éseber*) in order that the liquids may separate. The mass of cheese is formed into small rectangular
pieces of cheese which are left on the little straw-mat for about one day. They are then removed to [417]
be dried finally on a platform (*tahaġa*, *tafalkat*) made of branches.

Cheese made from fresh milk is known to the Ayr Tuareg as *tekemmart*; it is manufactured to very
great extent and much in the same fashion as just described from Ahaggar. The abomasum of little
kids or lambs to be used for rennet is named *tederant*, and the Ayr Tuareg add parts of an annual [824]
plant known as *ekochmaren* (*Caralluma Mouretii*) in order that the milk may curdle quickly. The
Ayr Tuareg also use little mats plaited from stems of the *afezu* grass (*Panicum turgidum*) to press and [285]
form the rectangular pieces of cheese; the Ayr Tuareg make mats (*tésebert*) (Fig. 168) particularly
for this purpose, while the Ahaggar Tuareg generally use an old piece of a tent mat (*éseber*). In Ayr
the rectangular pieces of cheese are dried on bunches of hay placed in trees (acacias), or on the top
of the mat-covered tents.

The *takammart* or *tekemmart* type of cheese made from fresh milk is in high esteem as food among 262
all pastoralists of the Sahara. It is generally eaten when newly-made and soft, though it may also be 251
stored. The Ahaggar Tuareg make this type of cheese only when milk is plentiful, while the Ayr Tuareg 234
manufacture it most of the year though the main season of cheese-making is the season of *akasa*. 221

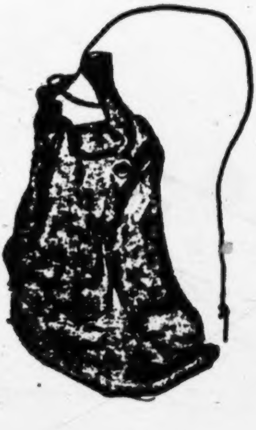

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Fig. 156. Skin bag of the *émesesley* type used to sour milk before churning. Ahaggar, the *Afuh-en-tehlé* tribe. Dimension: 0.37 m high. (F.M. 170).

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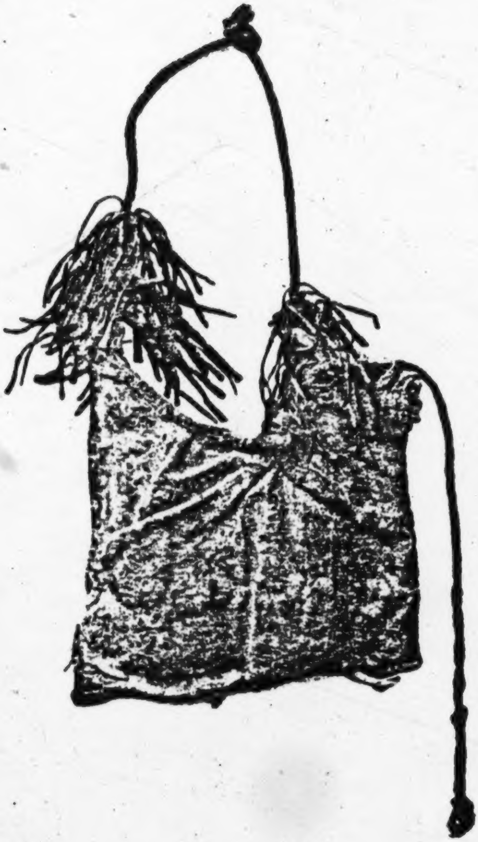

Fig. 157. Skin bag (*émesesley*) for souring milk before churning. Ahaggar, the *Dag Ṛali* tribe. Dimension: smallest height 0.20 m. (N.M. G. 5207).

234 Milk of goats, sheep, and cows is frequently mixed to make cheese of the *takammart* type, but milk of these domestic animals is also used individually for cheese-making. The very best milk is said to be sheep-milk which gives almost white cheese, while cow's milk yield a more yellow-coloured one. – 128 The use of milk, butter, and cheese in connection with various vegetable dishes will be described later in this chapter, and we shall now briefly outline the use of meat and its preparation.

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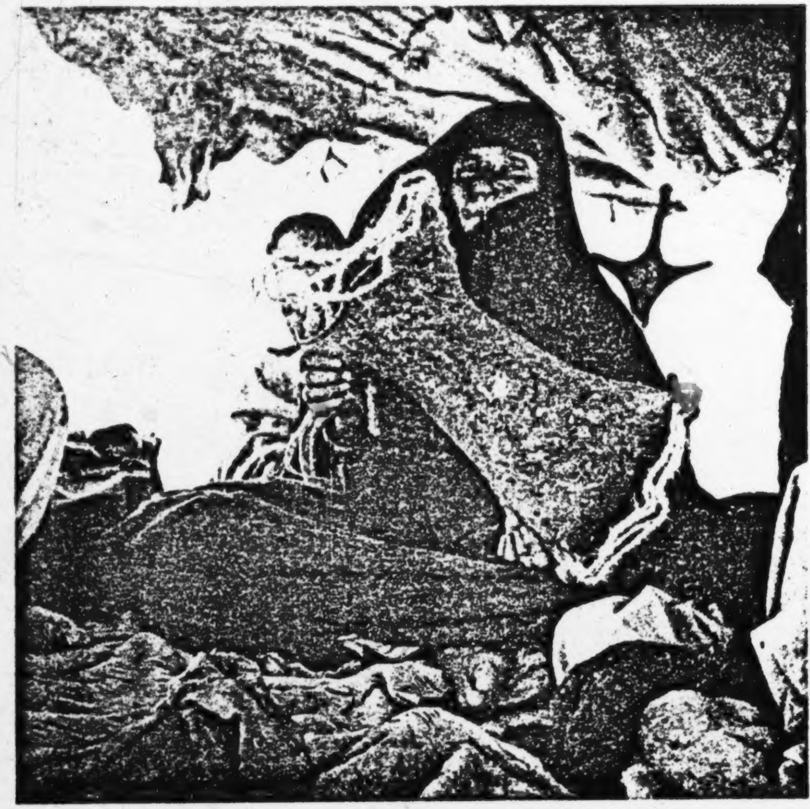

Fig. 158. Woman churning butter by shaking the inflated churning-bag (*aĝiwir*) between her hands. Ahaggar, the *Aĝuh-en-tehlé* tribe.

Meat (*isan*) is not a staple diet of the Tuareg. The Tuareg of Ayr consume more meat than the 262 Northern Tuareg, but even in the south it is not eaten daily. There are Ayr Tuareg who are reluctant to kill their animals, and people who have much milk have very little need of meat. Meat is eaten by [574] all Tuareg on certain festive occasions, whether social or (and) religious, and when camps are visited by friends, certain relatives, and important guests. He-goats and rams, or barren goats and sheep, [231] are the animals most commonly killed. The meat of sheep and rams is considered better than goat [282] meat, and sheep are also highly esteemed for sacrifice. Whenever the Tuareg kill an animal for food 000

[text continues on p. 231]

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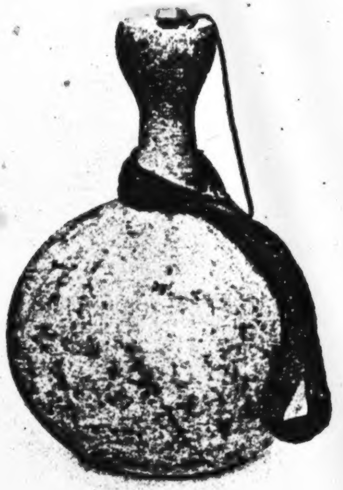

Fig. 159. Calabash (*azens*) of the type used by Ayr Tuareg for milk and for churning butter. It is provided with a wooden stopper and a handle plaited from goat-skin. Ayr, the *Imezzureg* tribe. Dimension: 0.30 m. (N.M. G. 6664).

[224]

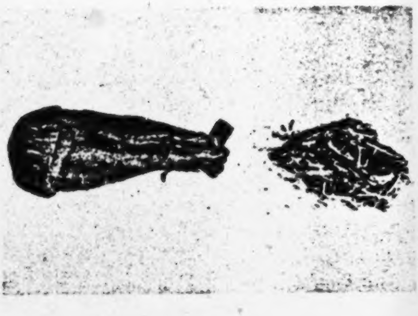

Fig. 160. Skin bag (*abelbod*) containing parts of the annual plant *aynesnis* (*Chlamydophora pubescens*) which are added to butter before heating in an earthen pot. Ahaggar, the *Afuh-en-tehlé* tribe. Dimension: the skin bag is about 0.15 m long. (F.M. 153).

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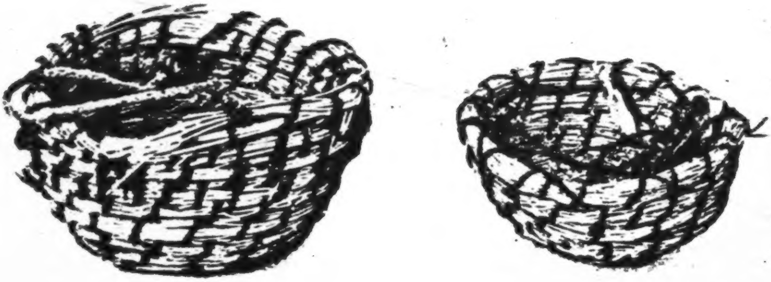

Fig. 167a–b. Baskets of the *aragas* type used for making butter-milk cheese (*awles*). They are made from straw bent into circular bundles and kept together with thin cords (*éhafilen*) of goat's hair. Ahaggar, the *Ağuh-en-tehlé* tribe.
a. Dimension: 0.140 m high, 0.240 in diameter at the rim. (N.M. G. 5818).
b. Dimension: 0.100–0.105 m high, 0.205–0.215 m in diameter at the rim. (N.M. G. 5819).

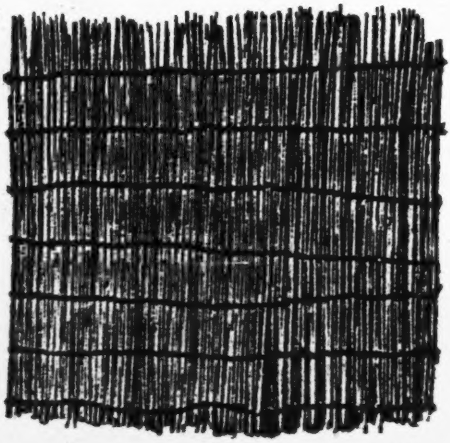

Fig. 168. The straw-mat (*tiseberi*) used for the manufacture of *takammart*-cheese known as *tokommart* in Ayr, that is cheese made from fresh milk. The mat is made of stems of the *afezu* grass (*Panicum turgidum*) united with narrow leather strips. Ayr, the *Kel Akerra* tribe. Dimension: 0.46 × 0.44 m high. (N.M. G. 6612).

634 vassals was given to the drum-chief (the *Amenukal*) and not to the *temaẓlayt* master. However, should
565 a vassal Tuareg have borrowed for raiding a riding camel from his *temaẓlayt* master or another noble
571 613 Tuareg, they received a tribute also known as *abellaġ*, comprising half of the booty remaining when
721 one half had been given to the *Amenukal*.

The noble Tuareg possessed many advantages over their individual vassals. They could apparently
565 claim almost what they wanted for their subsistence, and frequently camped close to their vassals
571 who then were obliged to feed them, and when in need of riding camels the noble Tuareg could freely take such animals from their vassals (Duveyrier 1864, p. 334 ff.). Similar information is given by Benhazera, but he states that the vassals in the past would not necessarily supply everything demanded by their noble lords (Benhazera 1908, p. 54). The vassals were under a particular obligation to provide the noble Tuareg with goat-breeding products, and if they had milk yielding she-camels the noble Tuareg could claim these animals until milk-yielding stopped. But the vassals had also many advantages from the *temaẓlayt* relationships. They were not only protected by their lords. The noble Tuareg would leave behind the animals they could not take with them when roaming in the desert, and noble Tuareg never had much livestock with them in their camps. It was also of great importance to the vassals that they could use their masters camels for caravan trading. On the whole the system was not exclusively the exploitation of vassals by the noble Tuareg, and it can be added that the vassal Tuareg were always more numerous than the noble Tuareg, that the drum-chief (the *Amenukal*) was elected by the vassals, and that he alone had judicial rights. The system was one of give and take to both classes involved, and there can be little doubt that it was well adapted to practical ecological conditions.

233 In Ahaggar, camels and goats are very complementary to each other. The camel supplies the Tuareg
433 with milk, but with very few other products, and the Tuareg cannot always get milk from their she-
[234] camels which yield very little when pastures are dry. When grazing is good, camel's milk is important
[262] as food, but it is not well-fitted for churning butter, and cannot be used for cheese. Camels are occasionally killed, but as their meat is not very suitable for drying, the Ahaggar Tuareg kill camels to
[281] utilize their meat only when many people congregate, as for instance at a marriage. Camel's hide is not very important in Tuareg craft, for tanning is not practised, and Tuareg camels have little hair which is used only for the manufacture of a few insignificant objects. To most Ahaggar Tuareg the
[437] camels have little direct economic value. But for raiding in the past, camels were very valuable riding animals, and were then, as now, extremely important for caravan trading which provides the Tuareg with most of their vegetable food.

The economic rôle of goat-breeding is very different. Goat-products play a very comprehensive
[234] part in Tuareg nourishment. Goat's milk is not only drunk, but is also made into butter and cheese
[262] which can easily be stored. Goat's meat is superior to camel's meat, and one goat does not contain more meat than can be eaten quickly by the members of a normal household. Furthermore, goats are very important in Tuareg craft; tents, waterbags, and containers for different sorts of liquid and solid food are made predominantly from their skin, which was formerly also employed for whole garments. Goat's hair is extremely useful as material for ropes with which domestic animals are tethered, camel-loads are fastened, and the like.

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235 POULTRY RAISING--domesticated fowl of economic importance; care and treatment (e.g., feeding, shelter); hatching; egg production; special equipment (e.g., incubation); raising of birds for special purposes (e.g., for eggs, for feathers, for fighting); elaboration of a specialized poultry industry; etc.

See also:

Falconry	223	Poultry shelters	343
Poultry breeding	232	Incubators	416
Diet	262	Cockfighting	541
Featherwork	287		

565 this by peaceful means, at least again in theory. Ancient Egyptian records tell of a Libyan
642 chieftain, Meryey who was peacefully deposed and replaced by a younger brother following a disastrous defeat in battle (Bates, 1914, pp. 114–15, 218 and 221). It is some of the vassal clans that are the biggest numerically and also the richest on a *per capita* basis; and if vassal clansmen pay tribute to their noble "masters" it is only because they choose to do so, because they find it in their interest to keep the nobles on their payroll so to speak. Thus the Tuareg government of the Ahaggar is in fact a kind of republic and not a real monarchy or true military aristocratic autocracy at all.

Livestock. Herds of camels and flocks of
233 hairy sheep and goats constitute the bulk of the capital investment and so form the primary basis of Tuareg economy in the Ahaggar. The quantity and composition of the total livestock investment has been variously estimated, but the following rough approximations are probably not far from the true figures: camels–12,000, sheep–2,000, goats–20,000, donkeys–5,000 and cattle (zebus)–300 or thereabouts. Donkeys, as we have seen, are unproductive
[231] except as beasts of burden, and the cattle are so few as to be of negligible importance. Only some 4,500 camels are actually kept in the Ahaggar while the rest are put out to pasture in the Tamesna region on the northern edge of the Sudan, roughly half way between the Aïr and the Niger Bend. Most of the sheep too are pastured outside the Ahaggar proper, mainly in the country around Tin Zaouaten, southwest of the Ahaggar and northwest of the Tamesna.

The Haratin of the Ahaggar keep chickens,
235 but only the eggs are eaten as a rule. The
262 Tuareg eat neither eggs, fowl nor fish, but we will discuss this further in the section on *Nomad Diet* in the following chapter.

It has been said that the Tuareg have no
232 special breed of riding camels but that likely looking animals are picked out early and given special training for use as mounts. The fact remains, however, that the young of famous stud camels are always the preferred choice, and these animals are specially marked shortly after birth. The method of marking consists of pinching up three small folds of skin in a row, about 2 to 3 inches apart, along

DOMESTIC BIRDS

235 Many sedentary people within Tuareg countries breed fowls of which a few may also be found in
pastoral camps of the Ayr Tuareg, though fowls seem to be of very little use to them. For the hens
kept by pastoralists do not hatch out their eggs, and these are not always found by the Tuareg. I think
that most pastoralists of Ayr keep fowls mainly because they like to have them walking around the
camp, and I believe that their owners in general are children. Domestic guinea fowls are bred by some
sedentary people of Agadez, and young Tuareg who find a guinea fowl chicken in the bush may even
[262] take it to the camp to keep it as a pet. In Ahaggar there are no fowls among pastoralists, many of
whom will refuse to eat fowls and their eggs (cf. p. 162).

Domestic pigeons are bred by some sedentary people living within Tuareg countries. I believe that
[174] they have been introduced by the Arabs – in accordance with the theory advanced by Stuhlmann and
Lagercrantz (cf. Lagercrantz 1950, p. 74).

237

237 ANIMAL BY-PRODUCTS--uses of animal by-products (e.g., bone, teeth, horn, hoofs, claws, eggshells, hides, fur, hair, bristles, feathers, sinews, brains, entrails, urine, manure); processing of such materials not elsewhere described; etc. See also:

Use of manure in agriculture	241
Work in skins and furs	281
Cordage made from animal by-products	283
Featherwork	287
Ornament	301
Work in bone and horn	321
Glue manufacture	381
Fertilizer industry	387
Amulets, fetishes, and charms	751, 778, 789

773 the tortures of hell. Iblis, however, communicated his secret to
372 the blacksmiths, who since that time have known how to use it for
metalworking.

The Tuareg used to obtain fire by friction, using a board of
372 torha (callotropis procera) and a branch of hardwood; they caught
[824] the spark on a tuft of silk from the fruit of the callotropis and blew
on it until they got a flame, which required about a minute. They
have kept this practice and still use it occasionally.

Today they find matches sold by /228/ Tamanrasset merchants,
[439 but they all have tinderboxes
177] with flint and a bent piece
of iron.

They do not keep up the
[415 fire. They carry it from
439] one tent to the other in a
fragment of an old gourd or
sometimes hold a glowing
ember in their hands without burning themselves.
[237] When they want to transport
484] it long distances, they use
camel-dung embers.

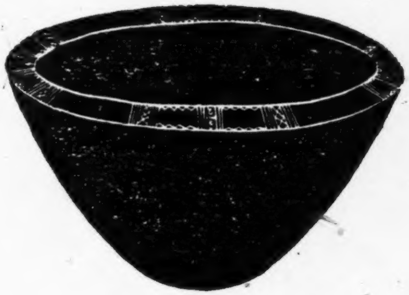

Fig. 27. Ahaggar Tuareg dish, imported from Hausa country.

The Tuareg commonly
[237] use the excrement of camels and goats as fuel. In the high
[137] mountains, wood is quite rare, but in the lower parts of the Koudia
old acacia or éthel /atle? Ed./ stumps are to be found. They never
[824] use the wood of the callotropis, which is the devil's tree and makes
muffled noises when it is burned.

Basalt blocks are never used to make the hearth, since they be-
[823] lieve that basalt is possessed by genii and will explode violently
when heated.

Furniture. -- We have briefly described the objects furnishing
352 the parts of the tent reserved for the husband and wife. To these
must be added a certain number of objects which make up the

262 433 439 According to what we know of the production of the cultivated lands of the Ahaggar itself and according to what the Tuareg are obliged to import, we may know approximately their needs. During the good years, local production is equivalent to only one quarter of the needs. It may be evaluated at 150 tons. To this must be added wheat production, but this cannot be taken in consideration insofar as con- [237 415 234] sumption is concerned, since it is almost entirely destined for export. It follows from this that import needs amount to 4, 000 loads of millet a year, calculated at 150 kilograms each, making 600 tons, which are for the most part bought or exchanged at Damergou or in the Tahoua region. The annual demand for dates is 400 loads.

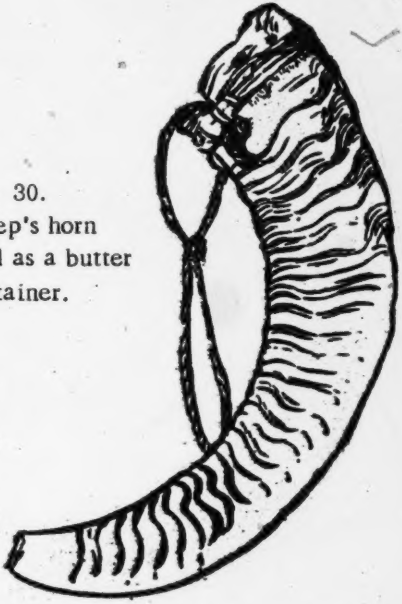

Fig. 30. Sheep's horn used as a butter container.

146 262 511 From these figures it follows that the annual needs per person are approximately one load of millet and one-tenth of a load of dates.

Individual consumption may thus be estimated at 187 kilograms of millet and 15 kilograms of dates per year, while an identical calculation /232/ for the Saharian Arabs has given us 180 kilograms of wheat and 75 kilograms of dates. But we must not deceive ourselves. These figures are drawn up for years, if not of abundance, at least of relative facility. Indeed, the annual average is very much lower, for the Ihăggaren do not always have at their disposal the means of exchange to meet their needs, and one may reduce the figures cited above by a good third, sometimes even by half.

824

To make up this deficiency in graminaceae, the Tuareg have 222 recourse to products of gathering.

After a rain the captives and the Imrad women gather the seeds [462] of certain plants which grow in the Ahaggar valleys. They are the afasso (Panicum turgidum F.) and the oulloul (Aristida pungens D.). But the size of the yield varies with the abundance of rain, and one may say [237 that most of the time it is 281 quite /233/ uncertain. 415] This is not the case in the 234] Sudan, where the Iklan gather whole bags of wild seeds, particularly cram-cram (Cenchrus echinatus), every year.

To be sure, there are a few wild berries in the Ahaggar, such as those from the jujube tree (Zizyphus lotus D.) and the téborak (Balanites aegyptiaca). In case of [731] famine the Tuareg fall back on other seeds, such as those of the colocynth, the Acacia tortillis, etc. However, all these plants [262] play only a secondary role in the Tuareg diet.

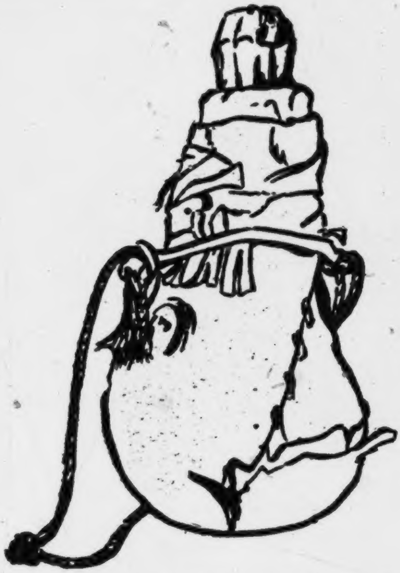

Fig. 31. Little leather flask used as a butter container.

The Tuareg have at their disposal milk from their camels, 272 goats, and ewes. They drink it either whole or diluted with water, either fresh or sour.

The luxury of drinking whole milk is reserved for young [264] mothers and children. Adults generally drink fresh milk morning and

[264]
272 evening after the milking, and at the noon meal they drink milk
which has already soured. It may accompany the dishes /234/ of
[262] béchena, serve as a sauce, and also be taken as a drink. When
they make long moves, the Tuareg carry a bag full of skim milk
on their camels. This turns rapidly and gives a sour-tasting whey
which is very refreshing. But milk is particularly appreciated for
its by-products, butter and cheese.

234 Butter --
oudi -- is ob-
tained by churn-
[415 ing milk in a
little leather
● 237] bag; a woman
shakes it on her
knees, making it
swing from right
to left and from
left to right.
The butter col-
[237 lected is placed
415] inside a sheep's
horn which serves
as a receptacle.
When butter
production exceeds daily consumption, the butter is placed in
leather containers, in the shape of a flask, where the heat usually
keeps it liquid or very fluid, except in winter when it is necessary
to heat it to get it out of the container.

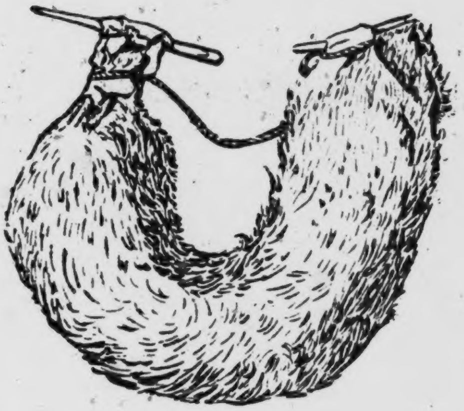

Fig. 32. Butter container made from the skin of a camel's neck.

Butter is mainly eaten as a sauce; béchena gruel or wheat
262 cakes are moistened with it. The Tuareg never cook it, as in fried
foods.

In years when pasturage is particularly good, which assures an
234 abundance of milk from the animals, the Tuareg make cheese --
tikomaren. They sour the milk, squeeze the curds in little mats

224 The radial-point trap is the one described by Montandon (1) [M1] and was already known by the Egyptians. It is spread over all of central and intertropical Africa. It is composed of a disk made of vegetable matter to which are attached the stems of rather resistant graminaceae which converge toward the center. The apparatus is placed on a little pit with a diameter a little less than its own, then covered over with straw /242/ and sand. It is arranged under trees whose leaves are still green and which the gazelles come to browse on. While going around the tree, the beasts finally step on it, and the hoof which passes through the stems is caught in the disk. In spite of all efforts and movements, the disk remains attached, thus preventing the animal from getting away. The hunter then steps in. He gets on the animal's trail, follows it, and finally catches up with it. He kills it with a thrust of his lance. Sometimes a lasso is placed on the disk with its end attached to the trunk of the tree or to an old stump.

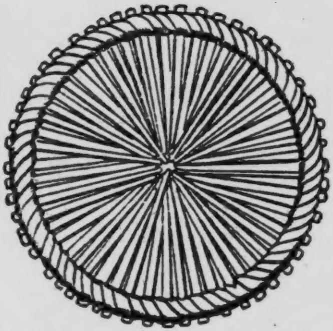

Fig. 33. Trap with radial points used to capture gazelles.

The torsion trap in the shape of an arch is a more complicated system. It is composed of a fragment of oryx antelope horn on [281] which is set a layer of tendons coming from the same animal and

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1. Traité d'ethnologie culturelle /A Dissertation on Cultural Ethnology/, p. 222, fig. 8.

224 which is rolled up on a stick, one end of which is cut in a point. A [237] second apparatus consists in a little wooden disk covered with hide, the whole mounted on another stick a little longer than that of the first apparatus which is embedded between the layer and the arc, while the pointed stick is fastened in the hole of a bead or on a little leather ring fixed on the leather disk. A lasso is placed on this disk, and its end is fastened on the main part of the pointed stick.

This trap is generally placed on the paths frequented by gazelles and lightly covered with sand. If the animal puts its foot on the leather disk, the pressure that it causes unhooks the pointed stick; the shock of this can break a paw and in any case it tightens the lasso around the paw.

More recently the Tuareg have used the metallic spring trap [177 of the English type, which their blacksmiths now know how to make. 324] They have replaced the balanced bait pan by a taut skin on which they have attached a large glass bead. The bait is fixed to the bead and is more sensitive to the touch. This trap may accidentally catch gazelles, but the most common catches are hares and jackals.

224 423 The Tuareg hunt on the lands over which they range and have no right to hunt on the lands of the neighboring tribes. If such a case occurred, they would be obliged to give the game to the owners of the area. The latter may at least grant back part of the meat, but they keep the skin, especially when it is a wild sheep.

/243/ Some regions are the hunting fief of a single man. So, in the Koudia, no one has the right to hunt on Tahat Peak without the permission of its owner, who is a descendant of the old Isebeten tribe. At any rate, the skin, head, and half of the animal must be handed over to him.

224 411 The Ahaggar Tuareg have had rapid-firing guns at their disposal for a few years. They are not good shots, but they know admirably well how to approach game, so that they have made massive massacres which will take a long time to repair.

232 these saddle camels, one may not, therefore, refer to a particular breed /race/ adapted for speed, as one may commonly hear spoken of.

436 The camel has a well determined exchange value among the Tuareg. It is one of the bases for comparison in their commercial transactions.

233 Each tribe marks his animals with a particular sign, and /251/
422 the owners who have many camels also have their own signs, marked with a hot iron on one of the parts of the animal's body -- neck, cheek, or thigh.

The sheep. -- Sheep are raised only accessorily in the Ahaggar,
233 because grass is not abundant enough. But it occupies a large place
[137] in Sudanese animal husbandry.

[136] It is a very peculiar animal with short hair and a long tail. It
stands tall, a characteristic which has won for it the name of Ovis
[174] longipes. The Tuareg certainly introduced it into West Africa. Zoologists never refer to it except as Tuareg sheep. Its antiquity in North Africa is well known. The ram of Ammon is pictured with its characteristic form, and it is also recognizable in the splendid rock drawings of Géryville and Tiout. It seems to descend from the Corsican wild sheep rather than from the Algerian wild sheep. Today it is an animal found exclusively in Tuareg camps of the Sudan or
574 in their area of influence.

262 Sheep is the dish served at great feasts, and its skin is used as
237 a ground rug, a blanket, or to make harnessing articles.

The goat. -- The goat is the mountain animal par excellence,
233 as frugal an eater as can be, resisting both cold and heat, and able to be content with the meagerest pastures. It is thus quite natural to find many of these goats among the Ihǎggaren.

[136] /252/ The Ahaggar species is small with long black hair. In
the Sudan it is different colors -- white and black, or red -- with
[232] short hair; it stands taller than the Ahaggar species and is often crossed with the dwarf female goat in the southern tribes.

136 The origin of the goat is less certain than that of the sheep. Very widespread all over the world, it must have been domesticated at

232 of the average resources of their country and never let their flocks
[272] exceed the number of head necessary for the milk needs of their
[438] family -- about ten to twelve animals per person. The surplus is
consumed or sold to the sedentary people in the agricultural centers.

/253/ The Ahaggar goats give very rich milk which makes
233 excellent butter. The meat, which is a little tough, is eaten boiled,
[234] and the hide is valued for making saddle bags, waterskins, and
[252 262 237] sometimes tents.

The ass. -- The Ahaggar Tuareg have many asses. They do
not breed them properly speaking, taking no care of them and letting
[232] them reproduce freely. Many Tuareg do not know the exact number of asses they have, for they do not use them all and abandon
[422] them in the mountains where they become more or less wild. The
young ones, born in the meantime, do not let anyone get near them,
and they must be trapped and then trained in order to be used.
137 These asses running loose, called haoulil by the Ahaggar Tuareg,
have given rise to a legend of wild asses. On this subject, Gautier
cited the adventure of General Laperrine who had a "wild" ass
hunted by his Arab horsemen, only to notice later that the animal
had been castrated.

Although there are no more wild asses in the Ahaggar, it is
[172] nearly certain that there were some. They were pictured in the
rock drawings of the Djorat wadi, and some still exist in Abyssinia
where they are called "onager."

233 The ass is very much at home in the Ahaggar. It is possible
[174] that it was domesticated there. The legends of the Ih$\overset{u}{a}$ggaren have
kept the memory of the first inhabitants, the Issebeten, who had
[173] only asses and goats.

In their short moves the Tuareg utilize asses to transport baggage,
442 and men and women also use them as mounts. The servants also
[312] take asses to replenish the water supply, making them carry the
[357] heavy waterskins on their backs or under their bellies.

262
237 The ass is never eaten, and its skin is not used.

The horse. -- The horse is not a Saharian animal. In 1929
233 there were four horses in the Ahaggar belonging to the amenokal.
[643 Today there are about twenty of them belonging to the members of
644] his family or to the notables of his camp.

This is an expensive luxury, for these animals must be fed with
[184 barley, and there is not enough barley for the people themselves.
262] It tends to replace the camel for the Sudanese Tuareg.

/254/ The zebu. -- A few years ago the aménokal owned a
[649] small herd of zebus which he had had sent from the Sudan. This
[137] animal is not raised in the Ahaggar proper, and it could not be, for
lack of appropriate pasture.

[312] The zebus serve in the agricultural centers by drawing water.
They are furnished to the tenant farmer by the proprietor of the land,
[427] and they are very poorly fed on hardship rations of hay and grass, or
else they are put in rush pastures, which are generally plentiful in
the agricultural centers.

[438] When the animal is tired, the owner exchanges him if that is
at all possible. The privations which the zebus must undergo bring about their death in a relatively short span of time, and so in the Ahaggar it is a question of keeping them alive rather than raising them. In any case, they never follow the camps in their moves and never live near them.

361 When we talked about the camp, we told how the search for
136 pasture directed its location.

233 Insofar as animal husbandry properly speaking is concerned, we
361 observe that the small animals -- sheep, goats, and asses -- always
stay in the Ahaggar and move with the camp.

As for camels, this is not the case; they are often put out to pasture far from the tents, watched only by a few shepherds. The majority are even kept in the Sudan 800 kilometers from their owners'

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413
1. Dr. Foley, *Moeurs et médecine des Touaregs de l'Ahaggar* /Mores and Medicine among the Ahaggar Tuareg/, p. 85.

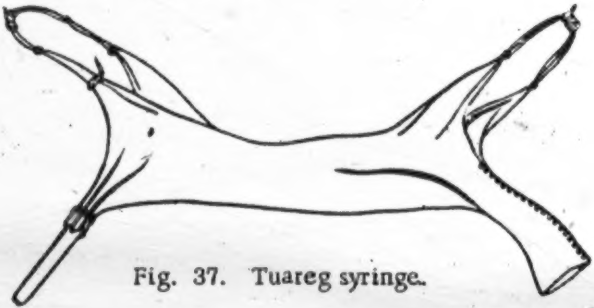

Fig. 37. Tuareg syringe.

752 [278] The warlike and eventful life of the Tuareg exposes them to many wounds or accidents. They care for war wounds by sprinkling the wound with sugar or smearing it with plasters of vegetable origin, chopped leaves of the *Zizyptus lotus*, or ground resin of the *Balsamodron africanum*. Sometimes they pour butter on it, and if the wound is infected they apply plasters of butter and ashes of *aferegak* (*Chrozophora brocchiana*).

But we have been able to observe that the use of this ash was of no great efficacy, that the wounds took a very long time to heal, and that in many cases they preferred to call on a European doctor.

Fractures are cared for with absolutely the same methods as those used by our European doctors. The fractured member, after being set, is coated with a flour plaster, furnished with a little cushion of goat hair, and braced by means of splints made of wooden boards attached to a sheepskin and kept in place by leather cords.

/263/ We have never seen any amputation among the Tuareg, and we do not know whether or not they know how to do it.

757 413 207 The Tuareg also know the use of enemas. The apparatus is made of a sheep's bone, one end of which has been rounded and

757 polished and whose other end is inserted in a small goatskin water
[413 bottle which holds the liquid to be injected. During the operation
237] one presses on the bag so as to make the liquid penetrate, while
the patient has his head down and his feet attached to a tree. The
[278] enema is generally composed of water, butter, and ground afasso
roots. When it is a question of giving an enema to a young child,
[855] the mother fills her mouth with water and, putting her lips against
the anus, blows the liquid with all her might.

/264/

Chapter 8

Dress. Adornment.

291 Clothing. -- The portrait of the Tuareg is now well known.
Draped in a long, dark-colored blouse, belted at the waist, and with
his head surrounded by a black veil placed in the shape of a
haumier /?/, he makes a silhouette as majestic as it is mysterious
[493] when he is mounted on his slender mehari. Hanging from the
saddle, as well known as the man, is the broad antelopeskin buckler.

The Tuareg, even though they are poor, are very natty. Although they have only sordid rags, they always are able to wear them with good taste and to keep a proud and dignified attitude under all circumstances.

The costume for men is the same in all confederations. It is made up of: 1) a very full pair of trousers, drawn in at the waist by a cord of braided leather; the leg is nipped in at the instep /sic/ and blouses over it so that it sometimes drags the ground; 2) a big, very full blouse, formed of a rectangular-shaped piece of cloth, sewn by a stitch at the four corners, and provided with an opening in the middle to let the head go through; it descends to the knees

/273/ On their fingers Ahaggar women wear big, round-shaped rings, made of small cases in which there is a little pebble which tinkles [556] like a bell. Rich women wear two or three on each hand.

The wrists are adorned with hollow silver bracelets with triangular cross sections, bearing little linear drawings. There are also rather [531]

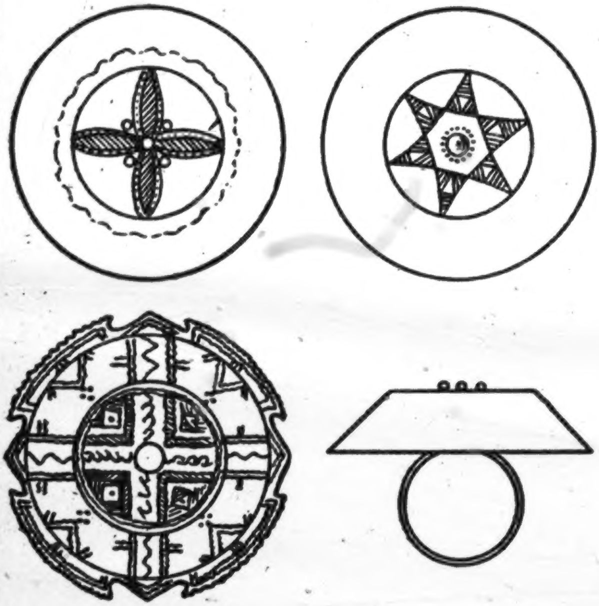

Fig. 43. Ahaggar women's rings.

broad black horn bracelets. Bracelets of Sudanese origin made of [177] multicolored beads mounted on leather are also adopted by a few women.

The neck is ornamented with a necklace bearing an oval (?) shell [237] or a substance coming from a native Nigerian animal, which could very well be the manatee. This jewel (ameréouan) is extremely [428 556] valuable and very rare in the Ahaggar. It is handed down from mother to daughter.

881 From this day on the boy enters into the class of men. He
884 may go to war and attend the ahal.

868 Education of girls is hardly more interesting. At six or seven, the little girl begins to see to household duties, participating in cleaning the tent and making meals, etc. A little later she learns to weave mats, work little copper articles, and spin goat hair.

Musical and literary
534 education for young girls
is very much esteemed
among the Tuareg and
212 most particularly among
the Imochar. Little girls learn to write tifinagh letters and play the amzad, a sort of small one-stringed violin which brightens up the dull evenings of the Tuareg.

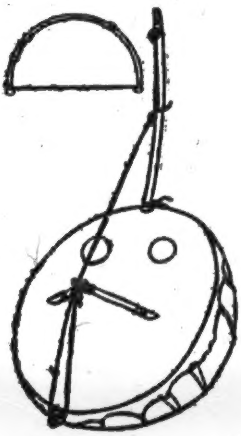

Fig. 53. Amzad, or one-stringed violin of Ahaggar Tuareg women, and its bow.

534 The amzad is made
237 of half a hollowed-out and dried gourd, over which a goatskin or uran /lizard/ skin has been stretched, attached by cords (in the Ahaggar) or little acacia thorns (in the Aïr). The skin is pierced by one or two holes to increase the resonance. The handle is made of a stick which penetrates into one side of the gourd through a hole and is secured at the other side by a point, or else it may go through that side too. The string is formed of several pieces of horsehair separated from the skin by a little bridge made of two small pieces of wood tied together crosswise. The bow (taganhé) forms an arc with

534 horsehair attached to the ends. During the music the player from
[237] time to time rubs the horsehair with a piece of resin from the gum
[314] tree; this serves as rosin. /288/ The amzad skins are often
decorated with painted motifs in very vivid colors, or else they
[532] are covered with tifinagh inscriptions indicating the name of the
owner and bearing love verses for the use of admirers.

Among the Ihǎggaren violins are usually large, reaching as
much as 40 centimeters in diameter. In Sudanese tribes, on the
[171] other hand, they are much smaller, rarely exceeding 25 to 30
centimeters.

533 The amzad plays an important role among the Tuareg, who
really make a true cult of it. Young men go to listen to the girls
play it. After they are married, they love to hear their wives, who
charm in this way the empty hours of summer evenings. Not play-
533 ing the amzad is a punishment that the women inflict on the men,
626 and during battles warriors always try to be brave lest their wives
593 or their fiancées deprive them of music. "There will be no amzad,"
they used to say upon returning from an unsuccessful raid. This
prospect was often sufficient to restore their courage and incite
them to go efface their defeat.

882 The ahal. -- At about the age of sixteen, boys and girls have
access to adult society and begin to participate in the ahal.

571 The word ahal means "meeting, conversation, interview." A
521 synonym for it is édéouenné. These musical and literary meetings
have a more or less peculiar nature, depending on whether or not
they are mixed with asri.

517 Asri, literally "to run with the bridle loose," means the practice
521 of some very free mores. To live in a state of asri is to exist under
571 conditions which permit one to practice loose mores. Those who
533 can be in a state of asri are pubescent boys and girls, widowers,
and divorced people of either sex.

These meetings take place near the camps in the shelter of
a wadi, but always out of the sight of old people and respectable
people of the tribe. They usually take place before the evening

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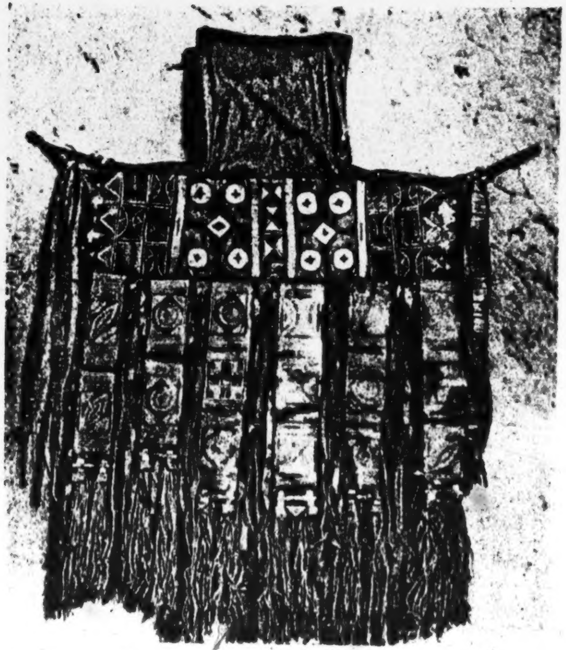
Plate XV

Old noblewoman from the Kel Rela tribe weaving a bag with goat's hair thread.



Goatskin bag used by women to transport their personal clothing. The very delicate decoration is obtained by cutting out the skin and applying embroidered leather.

Chapter II

Circumcision

In Tamashek, "azemhoud-n-baradhen" (circumcision of 304
children) ⵏⴹⵔⴱⵏⴷⵂⵎⵣ from the verb "ezmahad" ⴷⵂⵎⵣ , to 852
circumcise.

There is no set age for circumcision; generally it is carried out after the age of five.

The operator is summoned to the amazar' (douar), and all the people present take part in the operation, carried out as follows:

The operator holds the foreskin with a bit of "saâf" (djerid or palm leaf) and cuts it with a well-sharpened knife. To [278] cicatrize the wound, it is dusted with leaves of atle (Tamarix articulata) and skins of dried pomegranates ground to powder. Then it is washed with camel urine, and all painful contact is [237] avoided by means of splints held by strings fastened behind the back.

Then there is a feast: a sheep's throat is cut, and it is eaten by the guests.

Chapter III

Puberty

In Tamashek, "tamendjott" ⵜⵊⵏⵎⵜ . As soon as he is of 882
an age to fast, that is to say, as soon as he has reached puberty, 291
the boy begins to wear the "tidjelmoust" ⵟⵎⵍⵊⵊⵜ veil
which he will never leave off thereafter.

There are also lucky or unlucky days. The lucky days, 777 those which are recommended for starting on a journey, are [484] Friday after prayer, Saturday morning, and Monday. /63/ For the lucky day of the month one first counts 2 from the index finger and, coming back to the index finger, 7, 12, 17, 22, 27.

The unlucky days are Sunday and Wednesday.

The Tuareg also believe in the evil eye, "tahott." 754

An eclipse is the sun's raid on the moon, and vice versa. 821

Finally, there is a very curious custom of which Duveyrier 769 has spoken, which is that of consulting old graves. Usually 787 it is the women who go to consult them. They dress well and must avoid having on themselves anything of iron or steel, even a needle. They lie down near the grave, and the "zabbar" (ogre) inhabiting the grave appears to them in the form of a giant with eyes as large as a camel's, and gives them the answers they want. They are consulted especially in order to get news of absent ones, people gone on a raid or in a caravan, from whom there has been no news.

Chapter IX

Stock Raising. Flocks

Camels, sheep, and goats constitute the chief resource 233 of the Tuareg, as of all nomads. Camels especially are the object of all their care, since these give them the greatest service. They rely greatly on camels, ewes, and goats be- [234] cause of the milk, of which they drink a great deal, and melted butter, "oudi," which they make.

They use all the hides: those of camels for sandals, 237 containers for butter, watering troughs, etc.; those of sheep 281 or goats for waterskins and the manufacture of tents, leather clothes, etc. /64/

237
They use camel hair to make rope. They are fond of camel meat, and it is they who supply the markets of the Tidikelt with it. 243 262 439

There are very few cattle in the Ahaggar, barely thirty, and almost all these belong to Si Mokhammed ag Otsmane, of Tazerouk. They are used to draw water from the wells into the ar'erems. The pasture is scanty, and besides the cattle easily wear out their hooves on the rocks and stones. 233 492 [312]

In the Koudia, because of the cold which prevails there and the high altitude, there are many small turrets of dry stones, /65/ empty inside, in which the Tuareg confine lambs and kids at night to shelter them from the cold. 233 343

The Ahaggar do not have a large number of meharis, and they do not like to sell them, especially the good ones. Among themselves, to set the value of a mehari, they say, "Such a mehari is worth two, three, or four camels." All their meharis are trained to start at a gallop. The Tuareg has great patience with the training of his mehari and never mistreats it. He confines himself to persuading it by voice and foot, and it is perhaps for this reason that the Tuareg mehari is much more silent than the Arab mehari. 233 [435]

The foundation of the pastures of the Ahaggar is aremmas (Atriplex halimus, Salsolaceae). This plant is quite laxative. So when the year is bad and drought prevails, the Ahaggar are found emigrating toward the Adhar'. There are fine pastures of "had" (Cornulaca monacantha, Salsolaceae) in the south of Tin R'arhou, but there is no water. Moussa ag Amastane /66/ intends to have wells dug there and has requested our help and advice for this purpose. 137 233 [312 648]

As a rule the Tuareg let their camels out to pasture without herders, and they find them again at the well or by tracking, unless they entrust the herding to children or negroes. 233

/67/ A young camel is called "abal" without designating its age. A camel in general is called "amadjour," plural "imoudjar," or else "amiss," plural "imnass." A female is 192 233

565 Tuareg of the Iboglan section of the Kel Ṛela clan, but as he now lives outside of
614 Ahaggar the payment is made to the Amenokal.

643 In the past certain vassal clans or matrilineages of clans paid their tiouse to
651 noble Kel Ṛela Tuareg other than the Amenokal, while apparently other clans or lineages gave tiouse both to the Amenokal and to other Tuareg of the Kel Ṛela clan. But according to my investigations this did not apply to vassals of the Iseḳḳemaren class, who should pay tiouse to the Amenokal only. Duveyrier states that three Kel Ṛela sections (the Iboglan, the Inemba Kel Tahat, and the Inemba Kel Emoṛi) each had their particular vassals constituting clans or parts of clans (Duveyrier 1864, p. 375 ff.). Benhazera gives a more detailed account of relations between noble and vassal Tuareg. According to him most vassal clans paid tiouse to the Amenokal, but some clans or parts of them also gave this tribute to other noble Tuareg. And apparently there might within one and the same noble section be several Tuareg who had their individual vassals from whom they received tiouse payments (Benhazera 1908, p. 139 ff.).

Whole groups of Tuareg outside of Ahaggar also paid an annual tribute known
643 as tiouse to the Amenokal or to other prominent noble Tuareg of Ahaggar in order
651 to avoid raiding by the Ahaggar Tuareg. Thus the Adṛaṛ-n-Ifoṛas Tuareg (the
579 Kel Adṛaṛ) gave a skin tent and a camel annually to the Amenokal, but in spite of such annual tributes foreign Tuareg groups were frequently raided. If foreign Tuareg paying tiouse to the Amenokal were raided by people of Ahaggar, the Amenokal, according to Foucauld, had the right to a tribute named *ennehet*, about one third of the booty taken, to be paid him by all raiders whether noble or vassals. But raiders who were vassals of the Amenokal's drum-group should also give him half of the booty left when one third had been given. If the foreign group raided complained to the Amenokal to whom they paid tiouse for protection, he might return some of the animals taken, but never all (Foucauld 1951–52, III, p. 1347 f.).

The tiouse paid to the Amenokal and other noble Tuareg by their vassals was
565 also made in order that they should not be attacked or exploited by other Tuareg.
614 But the relation (*temaẓlait* literally meaning "the root of the nail") between vassals
651 and individual noble Tuareg had also an economic function, and was apparently of great value to both noble and vassal Tuareg. To make this clear I shall now briefly return to ecology.

In Ahaggar camels and goats are extremely complementary to one another.
233 The camel supplies the Tuareg with milk, but with very few other products. And
511 the Tuareg cannot always get milk from their she-camels which yield very little
[234] when pastures are dry. When grazing is good, camel's milk is important for food,
[262] but it is not well fitted for churning butter, and cannot be used for cheese. Camels are occasionally killed, but as their meat is not very suitable for drying, the Ahaggar
[574] Tuareg will kill camels to utilize their meat only when many people come together,
[281] as for instance at a marriage. Camel's hide is not very important in Tuareg craft,
[237] as tanning is not practised, and Tuareg camels have little hair which is used only
for the manufacture of a few insignificant objects.

Pritchard 1940. – Foucauld 1925–30, I–II). 3) As mentioned (p. 113) camel's milk 171
is not well fitted for churning butter, but it can be used as is the case among certain 234
Arab bedouins of the Northern Sahara and according to my investigations possibly
also among the Kel Ajjer who live close to Arab pastoralists, and among the Moors
(Monteil 1952, p. 73). In most Tuareg groups camel's milk is only occasionally used [302]
for butter which is not eaten but employed as a hair ointment. Among some East [262]
African cattle breeders butter is also churned for this very purpose. 4) All Tuareg
and perhaps all Arab camel-breeders use the stuffed skin of a deceased camel-calf
to deceive the mother animal during milking – for camels like cows will not generally
yield milk unless their calves are present. This custom is widely distributed
among cattle-breeders of the Old World. 5) Camel's urine is considered curative 171
and purifying, although it is not used for cleaning milk bowls or added to milk or butter 237
as among certain East African cattle-breeders. 6) The custom of bleeding living 825
camels to utilize their blood is practised by Tuareg when lost in the desert without [261]
water and food. This very custom is also practised by the Tebu and by Arab
pastoralists of Arabia. Among the latter camel's blood is apparently used frequently
in periods of hunger (Cauvet 1925, I, p. 701. – Finbert 1938, p. 39). This custom
may have been more common among camel-breeders previous to Islam which
forbids the use of blood. 7) Tuareg camel-calves which are very eager for milk and 171
difficult to wean may be cut in two or three places on the bridge of the nose; the 233
wounds will hurt when the calves try to suckle. On adult animals scars from these
wounds will appear as small bumps. They are believed to add to the beauty of riding [825]
camels and are nowadays made predominantly for aesthetic reasons. As a means
to prevent suckling the same method is also applied to oxen by southern Tuareg,
and Mr. Huntingford has informed me that Nilo-Hamites of East Africa have the
same custom. 8) In the south camels are not always branded with a red-hot iron as 171
among the Northern Tuareg and the Arabs. Most Kel Ferouan clans use earmarks 233
cut with a knife, and this is the case of other Air Tuareg, e.g. the Kel Fadei, some 422
of the Ikaskazan, and the Ifadeyen. Earmarks are possibly also used by some of the
Moors of the Western Sahara, who still use certain Berber words in connection
with camel-breeding (Monteil 1952, p. 103).

Tuareg camel-breeding has traits in common with cow-breeding, and they 171
may be due to historical relations between breeding of camels and cows. The 174
domestication of the camel may have taken place in a pastoral culture similar of 233
the East African cattle complex. In that case the type of dwelling characteristic of 342
camel-breeding may have been a barrel-vaulted hut or tent. Pastoral cow-breeders
of Africa and Asia generally use this type of dwelling, and huts or tents of arch
construction are extremely common among the Tuareg. Mat-covered arched huts 184
like those of Air are known also to the Kel Geres, some of the Eastern Ioullemmeden, 342
and to other Tuareg further west in Southern Tuareg country – in particular
those living close to the Niger (Lhote 1947, p. 71, 79. – Nicolas 1938, p. 62; 1950a,
p. 156f. – Barth 1857–58, I, p. 372f., 597f., V, p. 201. – Delafosse 1912, I, p. 334. –

younger animals which yield more milk. Again, the meat of very old goats is of inferior quality. Much 233*
goat-meat derives from he-goats of which a very limited number is needed for mating. Some Tuareg 262
claim that one he-goat is able to cover about a hundred goats, but as a rule I doubt whether it would be called upon to do so. In any event, too many he-goats are brought forth, and even very young male kids are frequently killed and eaten as there will be more milk for the nomads when such animals do not have to be suckled. It is considered ideal that male kids which are not needed for reproduction, and which are not killed at very early age, should be castrated at the time when weaning takes place, but even old he-goats may be castrated to make them fat for slaughtering.

Though meat is not a stable dish of the Tuareg they have to kill a certain number of goats every 237
year to obtain skin for the manufacture of various domestic utensils. The roaming life in the desert 415
necessitates a great many containers for water, butter, milk, grain, dates, and the like, and bags made from goat-skin are appropriate for this purpose. Indeed, goat-skin is so important to Tuareg craft that in speaking of the manufacture of most domestic articles one can hardly avoid mentioning the word "goat". Thus, my fairly large collection of ethnographic specimens from the Ahaggar Tuareg 126
contains about fifty different objects made entirely or mainly of goat-skin, which is also used for the 342
manufacture of tents among the Northern Tuareg. Even nowadays, a few articles of dress are made 291
from goat-skin, and goat-skin was in general use for this purpose in the past (cf. p. 287 ff.).

Goat-hair is extremely useful to the Northern Tuareg. The hair is cut once a year in the hot season when the animals do not suffer from cold (cf. Fig. 98). It is spun into strong cords used for tethering 283
animals, for tying up caravan loads, for reins, and the like. In certain tribes of Ahaggar it is also used 286
for a very primitive kind of weaving (cf. p. 265 ff., Figs. 209a–b).

To understand the economic role of goat-breeding one must briefly touch on the question of size 233*
of flocks. Statistics concerning the ownership of livestock must always be regarded with much suspicion, 128
as it is extremely difficult to obtain data. It is not only most impolite to ask Tuareg about the size of

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Fig. 20. A kid with the stick (*akara*, *asedres*) pierced through the mouth as described in the text. Tasilé-n-Ajjer, the *Kel Terurit* tribe.

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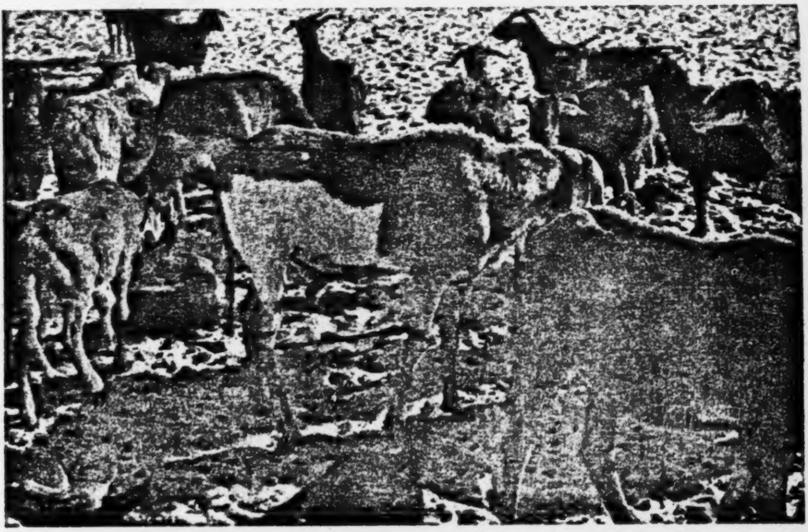

Fig. 25. Ram prevented from mating by means of a cord (*urun*) tied around the foreskin of the penis and also around the scrotum. A longitudinal hobble-rope (*amahus*) also serves to prevent copulation.
Tasilé-n-Ajjer, the *Kel Terurit* tribe.

[435] the price of sheep for slaughtering is very high compared with the price of goats. Sheep are also con-
[582] sidered the proper animals for Islamic sacrifices, and it should be added that sheepskin is considered
● [237] very suitable for the manufacture of certain articles (cf. p. 288 & p. 298; Figs. 232, 240).

[825] The Tuareg say that sheep are more "stupid" or less "intelligent" than goats. Sheep do not respond to their names, they get more easily lost during grazing, and they do not return to the camp by themselves. It is difficult to herd sheep if there are no goats in the flock. Among the Tuareg, as elsewhere in North Africa, sheep and goats are normally mixed in one flock. The goats then always march at the head of the flock, obeying the orders of the herdsman, while the sheep follow behind. It may happen, however, that goats and sheep become divided during grazing, as goats march too quickly for sheep to follow them, while on long journeys sheep show more endurance than goats.

The techniques of sheep-breeding are largely identical with those of goat-breeding mentioned above.
234 It should be observed, however, that goats can be milked without any difficulty whether they have kids or not, while this is not always so with sheep. It is said that they are more easily milked when they have lambs. Both in Ahaggar and in Ayr I have noted more than once that a good milch-sheep which had lost its lamb was given another lamb belonging to a sheep yielding less milk.

*233 Sheep can lamb until an age of seven or eight years, but it is considered appropriate to kill them for

or Ingal) for selling, they are also frequently provided with a wooden prong (*aburl*) loosely attached 233*
around one foreleg to prevent them running away. I have never seen this practised among the Fulani [171]
who have much more control over their cattle than have the Ayr Tuareg.

Cows continue to bring forth calves and yield milk until they are about 15 years old, and the duration of their life is estimated at about 20 years. But it is considered appropriate to keep milch-cows until they are ten or twelve years old when they should be sold or killed. The period of gestation for cows is about ten months, and there is no regulation of mating. The Tuareg say that cows will be on heat and mate again shortly after the birth of a calf, and that milk-yielding does not stop until five months after mating. Free mating of the cows agrees well with Tuareg interests as prices of calves are high. [435]

Milking of cows takes place twice daily and is generally done by women – in rare cases by men. 234
Milking is performed as follows:— Just before the herd returns from grazing in the evening every [462]
calf is firmly attached to a tree by means of a cord (*témetrek*) around its neck so that it cannot reach the udder of the mother cow. When milking is to take place the mother cow is attached to the same tree by means of a cord (*aṛan*) around its horns. The calf's rope is now loosened and it will immediately start to suck while the milk-maid fastenes another rope or cord (*ukarah*) around the hind legs of the cow. When this is done the calf is attached to its tree again, and milking begins. The milk-maid squats at one side of the cow (generally at the right side) holding the large milking bowl (*akabar*) (Fig. 37) between her legs and knees, and milks with both hands (Fig. 29). When the milk-maid has taken the milk she wants she releases the calf to let it drink what is left in the udder, but the calf is thereupon attached to its tree again in order that it may not suck during the night. Before the cows leave the camp in the morning milking is performed again as just described, but it may happen that the cows leave for grazing already during the night, and they are then not milked again until next evening. Tuareg who possess a great many calves may guard them within a so-called *zeriba* (*afaraṛ*) made of [417]
thorny acacia boughs.

Most cows will not yield milk unless they have their calves close to them. If a cow loses its calf it [237]
may be replaced with the calf of another cow so that milking can be done, but it is also common to use the so-called dummy-calf (*azeyuz*) made from the dead calf's skin stuffed with hay. This puppet is then set close to the cow which is deceived by it: It feels that its calf is standing by, it licks the skin, and milking can then be done without much difficulty.

The dummy-calf is not used by the zebu-owning agriculturists of Ahaggar, though I have met one of these *Ḥarratin* (*Izeggaṛen*) who had once made a calfskin-puppet after he had seen the method practised among *Ifoṛas* Tuareg at Kidal. The method of blowing into the cow's vulva is known to the Ayr Tuareg as *askuf*; it is used particularly for cows which are difficult to milk shortly after the birth of a calf. During migrations, when young calves march together with the mother cows, suckling is prevented by means of a piece of dum palm leaf attached around the calves' mouths. Such an attachment known to the Ayr Tuareg as *adabaṛ* may be used also for other domestic animals.

Weaning of calves takes place according to one of the following methods:— (1) *ikembar*, that is 233*
cuttings made with a knife in two or three places on the bridge of the calf's nose. The wounds of these cuts hurt the calf when it tries to suck, but the method is effective only for a very short period until the wounds have healed. On adult animals the scars of these wounds appear as small bumps (Fig. 30).

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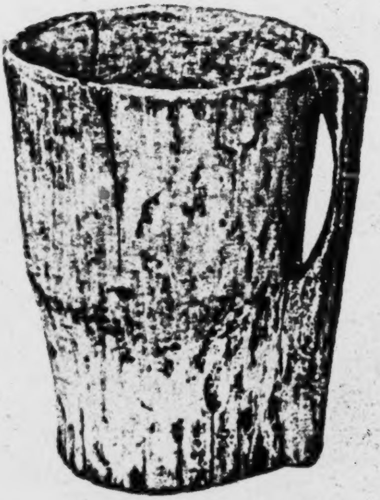

Fig. 37. Wooden milk-bowl (*akabar*) of the type used in Ayr not only for she-camels but also for cows, sheep, and goats. It is carved out of wood of the *tarza* tree (*tarha* in Ahaggar) (*Calotropis procera*) by a blacksmith. Ayr, the *Imezzureg* tribe. Dimension: 0.285 m high. (N.M. G. 6662).

● [237]

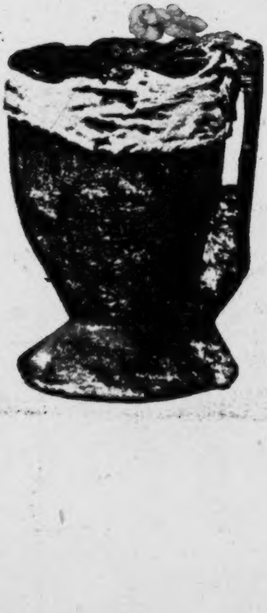

Fig. 38. Wooden milk-bowl (*akabar*) of the type used for she-camels in Ahaggar. It was introduced to Ahaggar from the south where it was made by an Ayr blacksmith from wood of the *tarha* tree (*Calotropis procera*). The cracked brim is mended with a piece of raw camel hide. Ahaggar, the *Aguh-en-tehlé* tribe. Dimension: 0.240 m high. (N.M. G. 5822).

37-38) and milks only with one hand, but the milk-bowl may also be held by a woman or a boy so 234 that both milkers have two hands free. If men are absent from the camp, milking may be done by 862 women though properly this is the task of grown men. Certain she-camels are very difficult to milk so that milking should be done as quickly as possible. If a she-camel is very restless and therefore difficult to milk it is customary to bend up its right foreleg and attach it in this bent position to its left foreleg before milking is done. This method is known to the Ayr Tuareg by the term *ésemmetil* (cf. Fig. 35).

The Tuareg have various devices to prevent camel calves from drinking more than their proper 233* share of milk. In Ayr and also among the Ahaggar Tuareg of the Tamesna region it is common to keep the young calves tethered by means of a particular cord (*témdit*) fastened to the calf's forelegs (Fig. 39–40). The calf is not allowed to follow its mother during grazing, and in the night when all she-camels rest in the camp they are kept lying on the ground so that the calves cannot suck them. When young calves are tethered in the camp they are fed on fresh annual plants collected for them by 824 the Tuareg. When calves grow older and plant food constitutes their most important nourishment,

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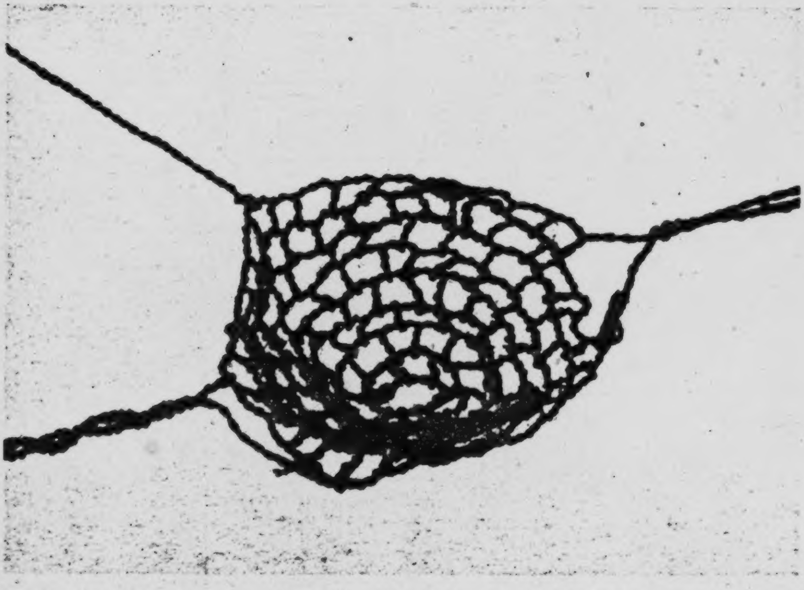

Fig. 41. Plaited pouch (*abeğu*) to prevent the sucking of camel calves. It is made of goat's hair, and it has three cords for attachment to the hind part of the she-camel so that the pouch covers the udder. Ahaggar, the *Ağuh-en-tehle* tribe. Dimension of the three cords: 1.19, 1.05, and 0.97 m. (N.M. G. 5198).

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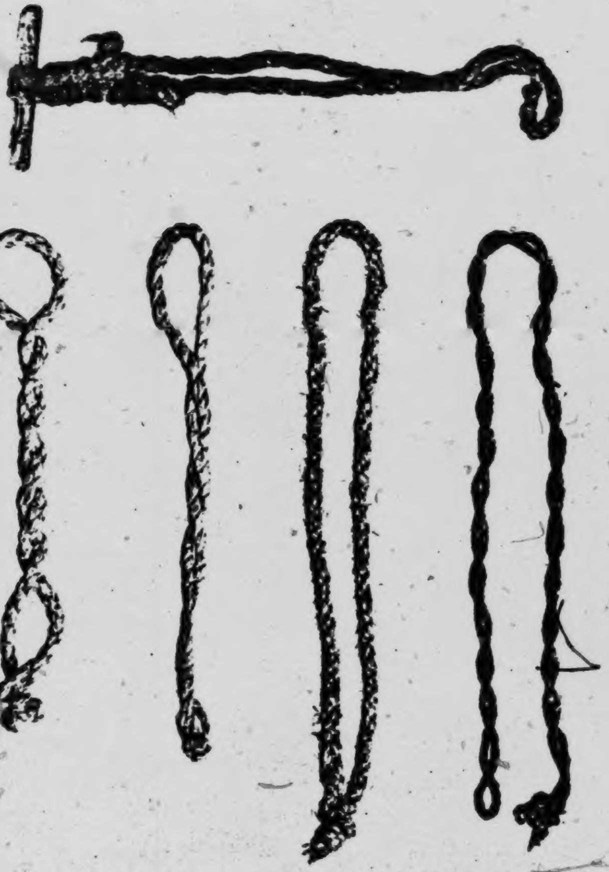

Fig. 45a–e. Hobble-ropes for camels.

a. The *aseγun* rope to be tied around the foreleg of a camel to keep it lying down. This rope is made of goat's hair. Ahaggar, the *Aγuh-en-tehlé* tribe. Dimension of the stick 0.128 m (N.M. G. 5195).
b. Hobble-rope (*téffart*) made of dum palm leaves. Ayr, *Kel Ferwan* Tuareg. Dimension: 0.43 m. (doubled). (N.M. G. 6609).
c. Hobble-rope (*téffart*) made of raw ox-hide. Ahaggar, the *Aγuh-en-tehlé* tribe. Dimension: 1.03 m. (N.M. G. 5196).
d. Hobble-rope (*téffart*) newly-made of date palm bast. Ahaggar, Tamanγasset. Dimension: 0.60 m. (doubled). (N. M. G. 5197).
e. Hobble-rope (*téffart*) made of goat's hair. Ahaggar, the *Aγuh-en-tehlé* tribe. Dimension: 1.16 m. (N.M. G. 5194).

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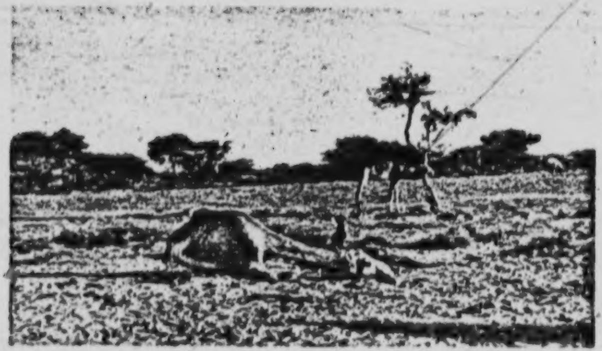

Fig. 46. A resting she-camel with the colour name *tawinak*. The colour term of the young she-camel standing in the back-ground is *tenilt*. Ayr, the *Imezzureg* tribe.

In Ayr the Tuareg do not 237

use camel's hide in their crafts, but give it to the blacksmiths who use it for lashing, or to people 564 who manufacture beds from ribs of palm leaves (cf. Fig. 257). The Northern Tuareg use camel-skin 352 for the manufacture of a few household implements and also use it for lashing (cf. p. 84, 110, 222, 824 270 f. & Figs. 70, 86, 132a–b, 161a–d, 162, 213). But even in Ahaggar and Tasilé-n-Ajjer the skin of camels is little used compared with the skin of goats, sheep, and barbary sheep.

When employed in craft, camel's hide is normally used raw and unprepared after soaking in water, 281 but the Ahaggar Tuareg say that for certain purposes the hide is treated with salt. In literature there 114 are many statements about the tanning of camel's hide. Thus it is stated by Cauvet that the hide is tanned with plant material in Algeria, and Cauvet also quotes Duveyrier's statement that the Northern Tuareg tan camel's hide to use it for tents and various other implements (Cauvet 1925–26, I, p. 714 ff.). I very much doubt the correctness of this, as all Tuareg asked about it have stated that the hide of camels is not fitted for proper tanning. Camel's hide is therefore of very limited use to the Tuareg, and the same is the case with camel's hair or wool. Tuareg camels in Ayr have very little wool, and 237 among the Northern Tuareg most animals have less wool than Arab camels of the Northern Sahara. The Northern Tuareg pluck a little wool with the hands or cut it off with a knife. It is spun into cords 283 to be used for certain minor objects, notably for the manufacture of the plaited pouch (*abegu*) to prevent the suckling of calves (p. 62, Fig. 41) and for the particular cord (*asaṛun*) tied around the foreleg of camels to keep them in a reclining position (p. 72, Fig. 45a). Mixed with goat's hair the wool is 286 also used for a kind of primitive weaving (p. 265 ff., Figs. 209a–b).

Camels are very important to the Tuareg as pack-animals for the caravan expeditions which will 492* be mentioned in a later chapter when other means of subsistence have been described. 484

In the past camels were also extremely valuable as riding animals on raiding expeditions which 492*
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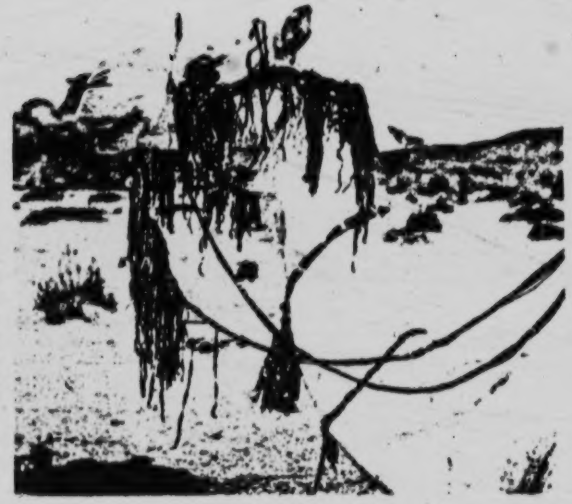

Fig. 52. The *akeskabbu* shakles connected with a leather rein richly decorated with fringes of the same material. This headgear is now in the National Museum (N.M. G. 5192). Hanging around the camel's neck is also a neck collar (*tahowt*) with a brass bell (*aneyna*) which is also now in the National Museum (N.M. G. 5191) (cf. Fig. 74b). Below the brass bell is an amulet case fixed to a piece of goat's hair. Ahaggar, the *Afuh-en-tehlé* tribe.

*233 *492 camels and for other animals which are difficult to control (Fig. 48). Such halters are known by the term *amerar* among the Ayr Tuareg. Certain camels which are difficult to catch even when hobbled during grazing constantly wear a halter provided with a short rope hanging down from the head – a device applied to many fierce bull-camels (Fig. 56).

*492 To break-in young riding camels the Tuareg frequently use a double rein one end of which is tied around the animal's head to serve as a halter while the other end is noosed around the lower jaw according to the method generally used for pack-camels and described above. [237] But for trained riding camels the nomads normally content themselves with the use of a single rein (generally known as *tarant* in Ahaggar, in Ayr as *trézem*) plaited of goatskin or goat's hair and attached to a copper ring (*tigemt* in Ahaggar) inserted in the right nostril of the camel (cf. Fig. 43). [564] This is done by the blacksmiths who also manufacture a very special headgear (*akeskabbu*, or *taryet* in Ahaggar) for riding camels which are difficult to control. The rider when using such a head-gear has a double rein one end of which is attached to a nostril ring (*tigemt*) while the other end is connected with two iron shackles known as *akeskabbu* (*taryet*) and *amadel*. When the rider pulls the right rein the camel is pulled at the nostril ring, but when he pulls the left rein the two iron shackles are tightened around the bridge of the nose and the lower jaw of the animal. The system is illustrated Figs. 50–52. [226] [531] Blacksmiths also make very elaborate halters of this type to be used mainly as an ornament of riding camels on festive occasions. In such cases the halter as well as the rein are richly decorated with coloured

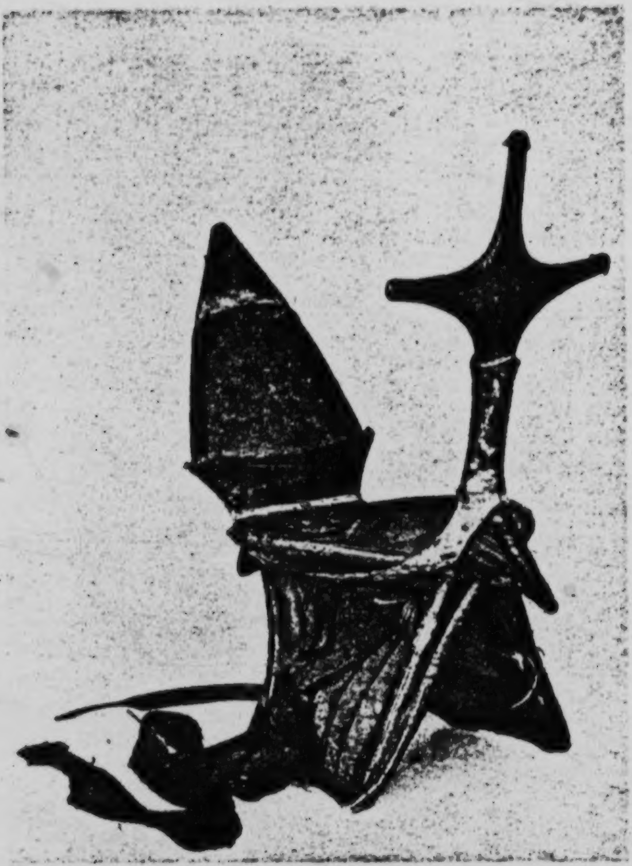

Fig. 60. Riding saddle of *tekokeyt* type (*térik*). Bought in Ahaggar by Olufsen, manufactured in Ayr. Dimension: 0.70 m high, 0.50 m long, 0.35 m broad. (N.M. G. 1.126).

284 *Hammu* obtain their riding saddles from Ayr. All three sub-types of the *térik*-saddle are construc-
237 tionally identical, being made from pieces of wood lashed together with raw hide and then covered
with coloured leather. The structure of this *térik*-saddle is described and depicted in literature (cf.
113 notably Gabus 1949, pl. XII; 1957, p. 176 & Nicolas 1950a, Fig. 48, p. 179).

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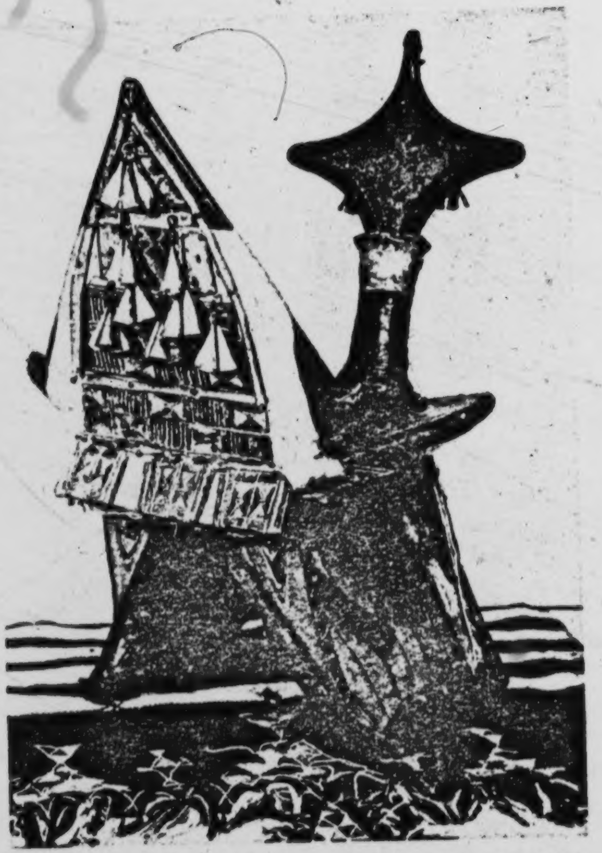

Fig. 62. Riding saddle of *bertekes* type (*térik*). This saddle was brought to the Musée de l'homme by Duveyrier. From Tasilé-n-Ajjer, probably manufactured in Ayr.

*492 mainly by blacksmiths of Adṛaṛ-n-Foṛas, which region is considered its original homeland, but it is
564 also made at Agadez in Ayr where the wooden skeleton is often covered with hairy ox hide. The wooden
● [237] structure of this saddle type is described in literature (Gabus 1949, pl. XII; 1957, p. 176).
[113] In Ayr and further south in Damergu I have often seen a very simple riding saddle which has never been mentioned in literature. It is known as *kantarki* or *delobi* (Figs. 64–65), and it is very interesting

[text continues on p. 84]

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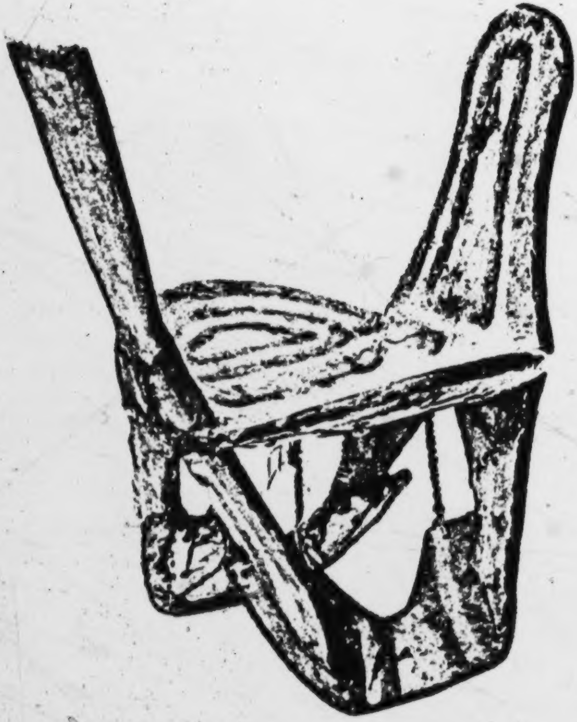

Fig. 63a. Riding saddle of the *tahyast* type. The saddle is made of wood of the *turha* tree (*Calotropis procera*) which is often used for riding saddles. The wooden frame is lashed with strips of raw hide and covered with depilated ox-hide which is coloured with the dyes known as *herki*, *temesaruak*, and *tawnkent* (cf. p. 282). Bought in Ahaggar, manufactured in Adṛaṛ-n-Foṛas, or in Ayr. Dimension: 0.55 m high, 0.51 m broad. (N.M. G. 5189).

*492 that it is manufactured by pastoral Tuareg of these regions and not by blacksmiths, though the latter
[564] may also make such saddles for their own use. The wooden structure is made of two cross-bars, which
[412] are natural prongs fashioned with knife and axe, and these two cross-bars are lashed to each other
at their lower ends, or are connected with each other by means of two sticks crossing each other at
[824] the two sides. A wreath of slender roots of *afagag* (*Acacia Raddiana*) covered with a network of dum
[283] palm rope may serve as a saddle seat, which can also be covered with a piece of matting plaited from
[285] the leaves of the dum palm tree. This very simple saddle may perhaps be considered the prototype of
the more developed riding saddles of the *térik* and *tahyast* types.

All the above-mentioned types of riding saddles are placed in front of the camel's hump and rest
upon two to four saddle cloths, the number depending upon their quality and also upon the nutritional
condition of the animal. Two saddle-cloths are considered enough for a fat camel while four should
be applied to a very thin one. Saddle cloths are frequently called *ésatfar* (Ayr) or *asetfer* (Ahaggar),
but this name is in fact used for everything placed upon the back of an animal to protect it against
galling from the luggage and/or the saddle. Saddle cloths for camels are properly termed *éselis* (Ayr)
[286] and *ameslaḳ* (Ahaggar). Both among the Northern Tuareg and in Ayr saddle cloths are generally
made of cotton, but they are also made from dum palm matting and a piece of leather among the
Ayr Tuareg (Figs. 66–67). The riding saddles are fixed to the camel by a single girth known as *ahayif*
[237] (Ahaggar) or *azaw* (Ayr). In the north such girths are normally made from goat-hair while the Ayr
Tuareg use plaited leather (goat-skin). Girths in both regions are frequently furnished with a very
[541] large tassel hanging down from the right side of the camel (Fig. 69). On rare occasions when the Tuareg
[648] ride their camels with all possible speed, e.g., at the annual camel races organized by the French
administration, the riders often secure the position of their saddles by means of a long cord (*ihwéweren*
among the Northern Tuareg) tied around the hind part of the camel as shown by the photograph
Fig. 68.

The camel rider sits in the saddle cross-leged with his feet resting upon the camel's neck. To accelerate
the speed of his riding animal he pushes one of his feet against its neck in step with the rocking gait
*492 peculiar to camels. A whip (*alekkoḍ*) also belongs to the equipment of the rider. Most whips have a
237 single lash made from a twisted strip of hide, but whips provided with two lashes of hide attached to
a wooden handle are also found and are common in Tasilé-n-Ajjer (Figs. 70a–b). The whips used
in the north are said to be made from camel's hide soaked in water; the raw hide is twisted and
kept in this position until it is dry. The Ayr Tuareg say that camel's hide is not well fitted for whips,
which among them are manufactured from the raw hide of a newly-killed ox. A piece of this hide is
twisted and left to dry as in the north. The handle of the one-lash whip is made of cotton wrapped
around the upper part of the lash and covered with coloured goat-skin.

*492 The Ahaggar Tuareg have a particular implement to hasten the speed of riding camels. It is described
in literature notably by Foucauld. It consists of a slender iron rod 0.35–0.50 metres long,
fixed into a wooden handle. It has a small crook much like that of a staple and is used for scratching
the animal and thus to incite it to greater speed. It is called *aẓalla*, or *asekreḍ* (Foucauld 1951–52, II,
p. 856 & IV, p. 1960). I have never seen this peculiar implement among the Tuareg.

*492 A camel rider's equipment comprises various types of skin bags of which the most common is a
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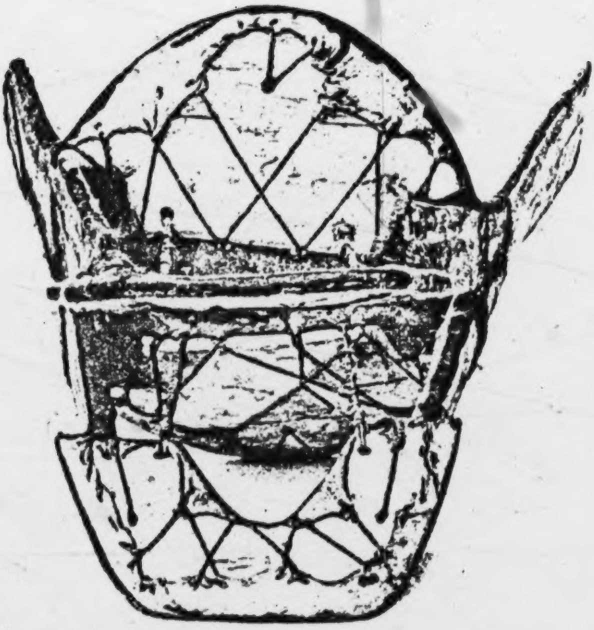

Fig. 63b. cf. Fig. 63a.

*492 415 huge saddle bag known as *ejjebira*, manufactured exclusively by the sedentary people of Agadez, the *Imeggedezen* (Fig. 72a). Other bags are often used by riders and some of them will be mentioned in the description of skin and leather work.

[283] An important part of the rider's equipment is the drinking bowl (*tamennast*) made from metal and attached to the saddle pommel with a plaited leather cord (*témetrek*); it is particularly common *492 among the Northern Tuareg (Fig. 71). The Tuareg also possess a great many objects which serve [531] exclusively as ornaments for riding camels. The Northern Tuareg adorn their animals with a collar (*tahawt*) made from fine cords of goat's hair, while the Ayr Tuareg use another type of collar called

[Text continues on p.88]

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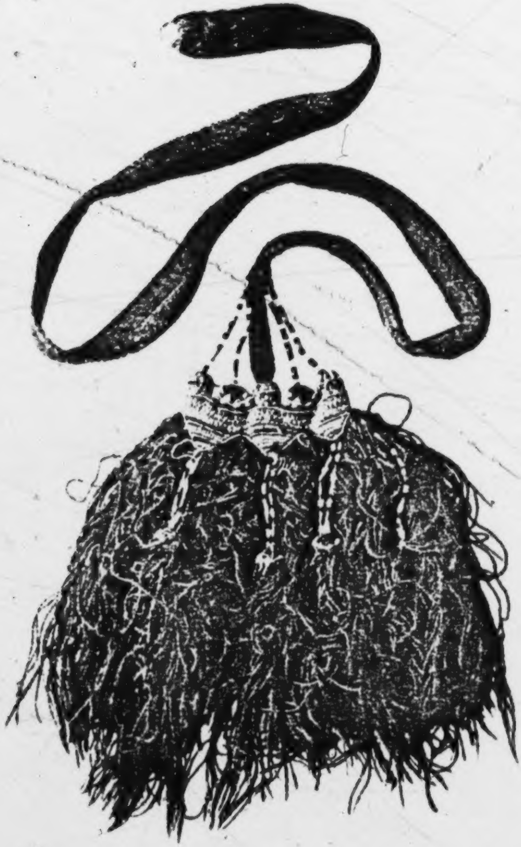

Fig. 69. Camel girth (*ahoyif*) made of goat's hair and provided with a large tassel of the same material. Ahaggar, *Kel Rezzi*. Dimension: 3.00 m long. (N.M. G. 5826).

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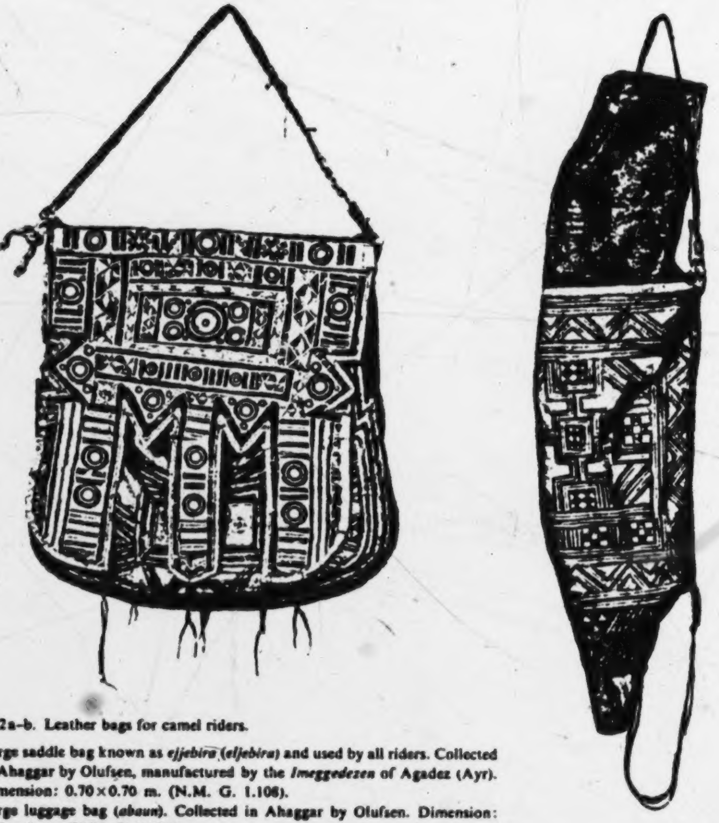

Fig. 72a–b. Leather bags for camel riders.

a. Large saddle bag known as *ejjebira* (*eljebira*) and used by all riders. Collected in Ahaggar by Olufsen, manufactured by the *Imeggedezen* of Agadez (Ayr). Dimension: 0.70 × 0.70 m. (N.M. G. 1.108).

b. Large luggage bag (*abaun*). Collected in Ahaggar by Olufsen. Dimension: 1.20 m long. (N.M. G. 1.136).

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In a few words camel vocabulary has the characteristics mentioned under the following items:— (1) Sex terms; (2) Age terms which, like most camel terms, also refer to the sex; (3) Colour terms; (4) Terms for very special qualities; (5) Terms for camels according to their training and use; (6) Terms for camels in very definite situations; (7) Terms for the number of camels in a herd; (8) Many entirely synonymous terms.

The Northern Tuareg use the term *amis* (pl. *imnas*) for all male camels including geldings, and the term *talemt* (pl. *tellemin*) for all she-camels. In Ayr a male camel is known as *alem* (pl. *imnas*) and a

[text continues on p. 95]

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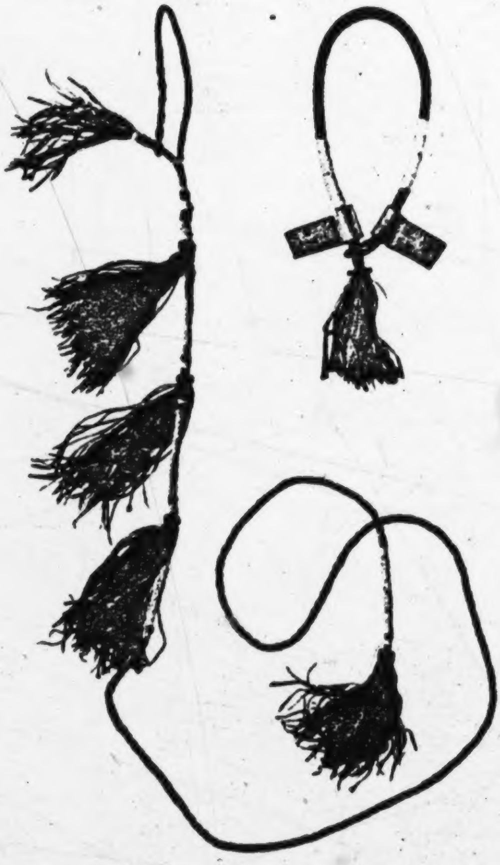

Fig. 73 a–b. a. Camel rein (*trézem*) plaited of leather (goat skin) and ornamented with fringes of the same material. Ayr, the *Imeggedezen* of Agadez. Dimension: 2.70 *m* long. (N.M. G. 6653).

b. Neck collar (*ilgam*) which serves as an ornament of riding camels. Made of leather (goat skin). Ayr, the *Imeggedezen* of Agadez. Dimension: 0.43 m. (N.M. G. 6654).

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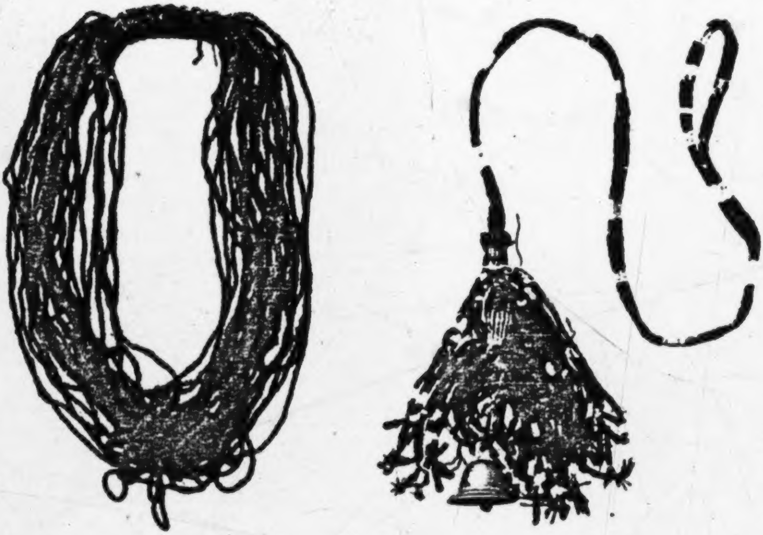

Fig. 74 a–b. Neck collars for riding camels.

a. Collar made from fine cords of goat's hair. It is called *tahawt*. Ahaggar, the *Aġuh-en-tehlé* tribe. Dimension of the winding seen at the top: 0.07 m long. (N.M. G. 5193).

b. Neck collar (*tahawt*) plaited from goat's hair, ornamented with coloured thread, and provided with a small brass bell (*anayno*). Ahaggar, the *Aġuh-en-tehlé* tribe. Dimension: 0.995 m long. (N.M. G. 5191).

she-camel as *talemt* (pl. *tollemin*). In both groups a bull-camel is termed *amali* which word is generally used only for bull-camels reserved for breeding. 233 192

The Tuareg of Ahaggar and Tasilé-n-Ajjer have definite age terms for camels until they are eight years old. These terms may be seen from the list on p. 102 where they are mentioned in their feminine forms. At the age of eight years the dentition of a camel is fully developed and later it becomes more difficult to state its exact age. Camels older than eight years are therefore generally known by one and the same term as long as they are strong enough to be used for riding and transportation, or for breeding. The age terms used among the *Kel Ferwan* Tuareg of Ayr are different from those mentioned from the north. They are used with precision for camels up to eight years old, and if the exact age of a camel is known by the owner he may continue to apply such terms for camels up to fifteen years old. Older camels are just referred to as "camels" or "old camels".

Colour terms of camels are many. I find it appropriate to list colour terms of the Northern Tuareg

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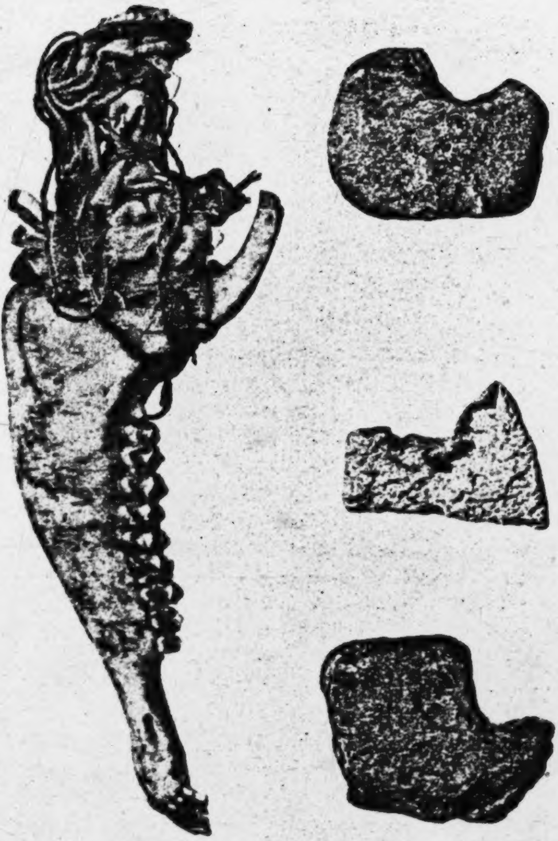

Fig. 79a–d. Children's toy camels. a. Jaw-bone of goat provided with saddle and rider. It is known as *aknar n emis*. Ahaggar, *Ḥarratin* of Abalessa. (N.M. G. 5914).

b–d. Three roughly-cut stones used as toy camels by Tuareg children. Ahaggar, the *Kel Ahnet* tribe. Dimensions: 0.067, 0.063, and 0.073 m. (N.M. G. 6604 b, d, a).

233 that is camels two to three years old, and the same word is also used in kinship terminology for
583
601 brothers and sisters-in-law.

233 The Tuareg make social payments and many indemnities in camels. If, as may happen, a woman
436 permits her husband to take a second wife, she will claim at least one camel from him. Again, if a
593 woman feels herself badly treated by her husband she will go to her parents' camp and not return to
431 her husband until she has been presented with a camel. Parents will sometimes induce their children
584 to marry against their own feelings by means of a gift of camels. In Ahaggar the indemnity for adultery
684 is fixed at three camels paid by the seducer, while one camel is given by an unfaithful wife. However,
643 these camels are not given to the deceived spouse, but to the supreme chief of Ahaggar, the *Amenukal*.
683 For the knocking out of a tooth two camels must be given, but if the injured person is a woman the
payment is five camels. For the destruction of an eye the indemnity is fixed at 25 camels. The same
payment is made for the cutting off of a hand or a foot, the cutting of a finger or a toe being fixed at
233 a price of five camels. In agreement with this system blood-wealth in Ahaggar was fixed at one hundred
436 camels in the past. There were quite definite rules governing the age and appearance of the camels
682 to be paid for a slain man. They should all be she-camels of different age, and of ten distinct colours
as follows:—

	Age			*Colour*	
10	*tilgad*, or *chét awétay*	(one year old)	10	*tibeydegin*	(white)
10	*tilusin*	(2 years old)	10	*titlaṛin*	(mahogany)
10	*tekkenifadden*	(3 years old)	10	*tizeggeṛin*	(reddish)
10	*tiṛuyar*	(4 years old)	10	*tibhawin*	(reddish brown)
10	*chét essin*	(5 years old)	10	*tilemlaṛin*	(grey)
10	*chét okkoẓ*	(6 years old)	10	*tiẓerifin*	(metallic grey)
10	*timessedas*	(7 years old)	10	*timengelin*	(dark grey)
10	*chét tahalt*	(8 years old)	10	*tikewelin*	(black)
20	*tireggenin*	(more than eight years old; she-camels considered neither young nor old)	10	*tizerṛafin*	(piebald)
			10	*tiwinaṛin*	(white cornea)

233 The actual value of a camel is never judged from its colour, but colours have a certain æsthetic value,
822 and wealthy Tuareg who keep several riding camels will always have animals of different colours.
* 492 This is the case with the present *Amenukal* of Ahaggar, who is said to possess between ten and twenty
643 camels trained for riding.

233 Camels play a great part in the life of the individual. Boys of the vassal class may be set to herd
857 goats, but their games centre round camels, and they take no particular interest in other domestic
565 animals. For their games very small boys have camel puppets which are jaw-bones of sheep and goats
524 (Fig. 79a), or roughly-cut stones (Fig. 79b–d). These playthings are their "riding camels", "she-
232 camels", and their "caravans". Boys learn to travel on camel-back at a very early age. When three or
324 four years old they sit behind their father's riding saddle or on the top of a loaded pack-camel, and
868 all boys can ride a trotting camel without a saddle before they are ten. Boys grow up with an intimate
181 knowledge of camels and camel-breeding, and with very little interest in any other subject.

[text continues on p. 104]

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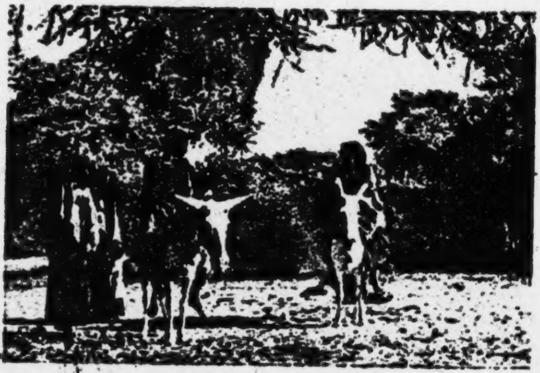

Fig. 84. Boy and woman mounted on donkeys. Ayr, the *Imezzureg* tribe.

But the wild animals are bigger, which the Tuareg ascribe to the fact that they roam freely in the desert and always can find the very best fodder – an explanation which seems reasonable as the Tuareg camp where fodder is reserved to their milk-yielding animals (cf. p. 491 ff.). It can be added that domestic donkeys are frequently tightly hobbled by means of a narrow rope (*teffart*) around their forelegs (Fig. 45) and sometimes also with another rope (*amalus* in Ahaggar) running from one foreleg to a hind leg. 231 136 231

If donkeys are not hobbled, there is always a great risk that they will disappear in the mountains and join the herds of wild animals. Unhobbled donkeys are often caught with great difficulty. They are sometimes driven together by the inhabitants of a camp, and when mares have foals it may even become necessary to run down the foals on riding camels in order to get hold of their mothers. In some regions where donkeys depend on water from deep wells it is customary not to give them too much water to drink, in which case unhobbled animals can always be caught at the well, where they will wait for water. But donkeys are very well fitted for desert life. They can do without water for several days even when weather is extremely hot, and where water is very near the surface so that the sandy soil is humid donkeys dig small holes with their hoofs to drink the water which quickly gathers in these depressions. I have myself witnessed this in Ahaggar where the Tuareg say that among domestic animals only donkeys are able to make such water-holes. [312]

The Tuareg distinguish between the domestic donkey (*éyheḍ* in the north, *éyjed* among the Ayr Tuareg) and the wild donkey or ass (*ahulil* in the north, *émedrer* in Ayr), but they are well aware that there is no important distinction between them for many Tuareg even nowadays obtain domestic donkeys by catching wild animals. Wild donkeys or asses were hunted for domestication still more eagerly in the past, and there may perhaps be some connection between donkey-breeding and true hunting – that is hunting for meat. Nowadays the Tuareg never eat donkey's meat, nor do they utilize the skin of these animals. But it is known that the Ahaggar Tuareg have eaten donkey's meat in periods of hunger even fairly recently, and Duveyrier states that old animals caught in traps are killed for their 231 262 237

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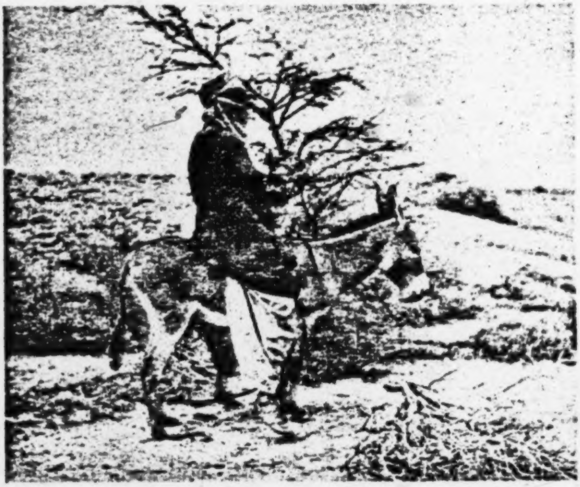

Fig. 85. Tuareg breaking in a young newly-caught donkey. The donkey is prevented from escaping by means of hobble-ropes (*téffart* and *amahus*) and is also tethered to an acacia tree. Ahaggar, the *Aguh-en-tehlé* tribe.

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262 skin (Duveyrier 1864, p. 231). It is most possible that the taboo on donkey's meat and skin is due to
● 237 Islam – meat of donkeys and horses is considered unlawful by the Ḳoran. Leo Africanus states that
[175] the nomads of the Sahara eat meat of donkeys which they catch in snares (Leo Africanus II, p. 944).

136 The wild donkeys, or asses, of Tuareg countries are very shy, and it is most impressive to watch a
224 herd of some twenty animals galloping over the desert plains. Because of their shyness they are often
hunted much in the same way as game animals. Among the Northern Tuareg they are caught in the
spiked wheel-trap, are run down by men mounted on camels, or are driven into closed river valleys
surrounded by steep rocky walls. In certain parts of Ayr wild donkeys can be caught in the same
way – notably in valleys of Mount Tamgak (Northern Ayr) and around Anu Meḳḳeren (Central Ayr) –
while the method of running down wild donkeys with riding camels is said not to be practised. Whether
the so-called spiked wheel-trap is used for catching donkeys or not, I do not know, as the Ayr country
is very extensive and inhabited by Tuareg of different origins. The Tuareg belonging to the *Kel Ferwan*
group claimed that it was not used for donkeys or asses for which they have a kind of snare called
turunt, which is also the name used among them for the noosed rope connected with the spiked wheel-
[283] trap. The snare used for donkeys is said to consist of a rope some twenty or thirty metres long and
plaited from dum palm leaves. The rope is noosed at one end to be used as follows:— The loop is
laid out where donkeys come to drink, the whole rope being covered with sand. The hunter lies
hidden behind some natural object, a rock or tree, and when a donkey puts one of its legs within the
[231] loop he pulls the rope. It is said that this method is also sometimes used for other domestic animals
which have gone wild, as happens frequently with oxen. But it is never used for hunting proper game
231 animals such as gazelle, antelope, and barbary sheep. To catch domestic animals which have gone
224

*492 household goods during nomadic migrations, and are employed daily in all camps to carry water in skin-bags
415 from wells and waterholes to the tents. They are very strong animals considering their low stature,
312 and good pack-donkeys can carry up to one hundred kilograms even for very long trips. Donkeys
262 are occasionally used for long journeys by the Northern Tuareg, and many Ayr Tuareg use them to
484 fetch provisions of millet around Tanut in Damergu. Caravans of donkeys are frequently observed
in these regions, and one even sees mixed caravans of donkeys and camels. There can be no doubt
174 that before the introduction of the camel the donkey was still more important for riding and transportation
than is the case nowadays. This is clearly demonstrated by historical material from Egypt and
adjacent regions (cf. Erman 1922, p. 518 f., 529, 592 f., 636).

231 It has already been mentioned that donkey's meat and skin are not utilized nowadays by the Tuareg.
262 The same is true of mare's milk which, however, is used as a remedy against a kind of cough known
257 to the Ayr Tuareg as *khamkham*. There is no regulation of mating for donkeys which in many ways
are semi-domesticated animals. In Ayr male donkeys are never castrated, while the Ahaggar Tuareg
say they castrate such stallions as constantly run after the mares and in this way cause too much
trouble. The Tuareg also have no methods to prevent foals from sucking, while a method of this kind
is sometimes applied by sedentary people in and around Agadez. This method known as *éfinjar* consists
in the cutting of the nostrils of half-grown foals so that they cannot suck pregnant mares. Both stallions
*492 and mares are used for riding and transportation, but female animals are much preferred for these
purposes. Mares are used almost exclusively for the transportation of water-bags hanging under the
animals, as the bags might be squirted by stallions' urine.

The Northern Tuareg saddle their donkeys, using the same saddle type for riding and for transportation
462 (Fig. 86). This is known as *aruku* and is manufactured by the women in the following way:—
824 Two fresh boughs of the *tahunek*-tree (*Rhus oxyacantha*) are heated, or slightly burned, over the fire.
322 The boughs are thereupon barked and bent into the curved form wanted, and are then kept in this
position by cords. After drying for a few days the boughs will retain their curved form, and the cords
● 237 are untied. The boughs are then cut up and their ends are connected by two pieces of camel's hide
412 soaked in water, and sewn together by means of a large iron needle (*tasugla*, or *tasubla*) (cf. Fig. 220b)
and a thread which is also cut from camel's hide. The wooden saddle frame is attached to three
237 cushions. These cushions are generally made of goat-skin or sheep-skin stuffed with hay or with date
palm bast, but may also be plaited from leaves of the date palm tree. Cushions made from goat-skin
412 are sewn together with strips of the same material by means of the little awl known as *tistent* (cf.
Fig. 218a). The two long cushions resting lengthwise upon the animals back are known as *tastek*,
and the small cushion resting over the animal's back close to its shoulders is called *tafelledut*. The
saddle is fixed to the donkey by two girths consisting of cords made of goat-hair. One of these cords
(*tidmechart*) passes under the tail, the other (*ahayif*) is tied around the chest of the animal. This saddle
type is well fitted for the transportation of burdens and in particular of water-bags, the cords of which
are attached to the pommels. When the saddle is used for riding it is frequently covered with a blanket
or a piece of cloth. Saddles of this type are found in all camps of the Northern Tuareg, and Lhote
states that they are also found in Adrar-n-Foras and in Ayr (Lhote 1947a, p. 120). This may be so
but I have myself never seen them in the latter region where they are unknown to the *Kel Ferwan*

When Tuareg get lost in the desert and lack water, they bleed their camels and 261
drink the blood (cf. p. 235). In situations of great distress they may also kill their camels in order to obtain the water supply conserved in the animal's stomach.

(3) Treatment by burning. Wounds are cauterized by means of a redhot iron known as *tamak* 232 (Ayr), or *taterkemt* (Ahaggar). Burning with a redhot iron is also practised for camels with swollen feet as already described (p. 121). It is also common to burn a line around wounds or other sites of disease in order that it shall not spread, and burning is even practised for internal diseases, as is the case with the *toza*-disease of camels (p. 121). Redhot irons are, on the whole, used particularly for camels. Wounds of sheep and goats, e.g., wounds from jackal bites, are cauterized by means of glowing camel dung. Certain stomach diseases, such as types of tympanites, are cured by a bunch of flaming grass swept under the animal's belly. I have seen this practised with donkeys which, like horses, may suffer from a kind of tympanites known in Ahaggar as *tahagá*.

(4) Instruments and bandages. Enema should be mentioned under this heading. It is known in 232 757
Ahaggar as *sebegiwen*, and is applied to humans and to animals by means of a funnel or by a special apparatus made from a piece of hollow cane connected with a skin-bag. I never had the opportunity [213]
to see this apparatus, which is depicted by Lhote who also gives some information about the use of enemas with human beings (Lhote 1955a, p. 303, Fig. 36). He mentions that an enema is also given by a mother to her little children by blowing water into the anus with her mouth. I have seen this done to children in Ahaggar, but I do not know whether this method is practised with animals also. Both in Ahaggar and in Ayr the Tuareg apply wooden splints to their domestic animals with broken 232
legs. I have seen this device only in Ahaggar where wooden splints are known as *tifesasin* (sing. *tafasast*). They are used for sheep and goats (Fig. 92), and, by the sedentary agriculturists, also for cows. The wooden splints applied to goats are sometimes replaced by a leather bandage solidly tied [237] ●
around the broken leg. I mention under this heading that camels bred and born in stony or mountainous 492
countries cannot always stand the long journeys through plain and sandy deserts. Their feet suffer

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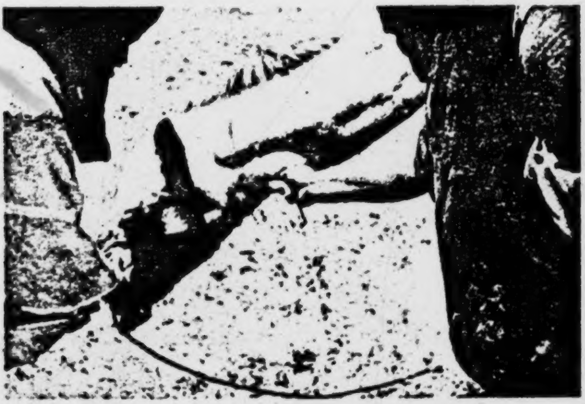

Fig. 93. Tuareg bleeding a camel at the place of the neck vein known as *abayor*. Ayr, the *Imezzureg* tribe.

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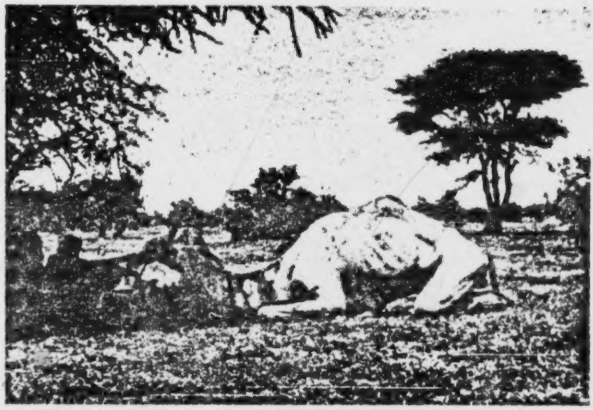
Fig. 95. A Tuareg feeding his riding camel with *afezu* grass (*Panicum turgidum*). Many Tuareg feed their riding animals with stems of this perennial grass – partly to obtain a docile camel for riding, partly to change its fodder which consists largely of acacias and annual plants. The photograph is taken near Agadez at the *akasa* season. Annual plants grow between trees and bushes (*afagag*, *Acacia Raddiana*; *ébezgin*, *Salvadora persica*; *tadent*, *Boscia senegalensis*). Ayr, the *Isakaranan* tribe.



234 than those mentioned. Thus they can use any kind of receptacle for milk and milking, and they do
415 not clean their milk-bowls with urine as is normal among certain East African stock-breeders, and,
237 perhaps, also among certain of the Fulani living south of Ayr. The taste of urine is detested by the
262 Tuareg, who know this taste all too well as the water drawn from pools and wells is frequently flavoured
237 with urine and the excrement of domestic animals. Nor is camel urine used by Tuareg women for
302 hairdressing as is done among the Arabs, but it is said that it may have a medical value in curing
752 wounds. The custom of drinking blood has been mentioned above (p. 122 f.) and will be described
later (p. 235).

*233 The Tuareg apparently have comparatively few superstitious usages in stock-breeding, which is
232 mainly to be considered rational. We have seen that stock-breeding is adapted to environment, and
we have also mentioned that there are veterinary methods which doubtless have their origin in considerable knowledge of the anatomy and physiology of domestic animals. This knowledge forms one
*233 corner-stone of rational stock-breeding, and another is the very detailed knowledge of botany. In
824 Ahaggar there are more than 600 different plant species for which the Tuareg have particular names, though a few related species are sometimes known by one and the same name. Every Tuareg know about the ecological conditions of these plants, and he knows exactly their fodder value for domestic animals. He knows that certain plants form excellent fodder for all domestic animals, but he is also well aware that the different types of stock have different needs, so that certain plant species are valuable for camels, other species for other domestic animals.

231 The Tuareg are occasionally cruel to donkeys, and to dogs, but they take the greatest care of all
other domestic animals to ensure their wellbeing and reproduction. Women bring acacia pods or
404 tender annual plants to kids, lambs, and calves, and to sick animals which remain in the camp. On
*233 long trading expeditions, when the camels have little time for grazing, some Tuareg will walk along

221 *233 824 tagayt, while the *Iwllemmeden Kel Dennek* at this period will camp around Ingal. Many Southern Tuareg leave the savannah country to avoid its heavy rainfalls and stock-diseases to let their animals benefit from the salty water and plants in the *Azawaɣ* country.

133 162 137 In the country west of the Ayr Massif, the Tamesna Plains, there is in addition to the Ayr Tuareg a numerous population of Ahaggar Tuareg who live constantly in these regions. These plains are botanically different from the mountains. Perennial vegetation is scarce though there are some *tamat*-acacias (*Acacia flava*), but there is a very rich vegetation of annual plants of great importance to *233 824 domestic animals. Among these plants can be mentioned *alwat* (*Schouwia purpurea* ssp. *Schimperi*), which is very valuable for camels and also good for sheep, *adreylal* (*Astragalus Vogelii*), and *tagellet* (*Colocynthis vulgaris*). The two latter plants are valuable as fodder for all domestic animals. It is noteworthy that these three species of annual plants last longer than other annual species. They do not wither at the beginning of the *ɣarat*-season, but remain fresh and green all through the winter until about *tabsit*.

It is evident that Tuareg knowledge of botany is extremely comprehensive, and that they use this knowledge to make stock-breeding as rational as possible. They may perhaps not be so rational in protecting pastures, for they cut acacias' boughs to feed the kids resting in the camps, and it is most possible that they also overgraze certain pastures. However, the grazing grounds are very vast in comparison with the number of pastoralists, and I believe that overgrazing and arboreal devastation take place mainly around villages and towns where the flocks of sedentary people graze continuously in the same area. In Ahaggar the valuable fodder plants and plants which are important for collecting are often protected for two or three months in order that they may become fully developed (cf. p. 150, 179).

*233 The Tuareg take great care that their animals do not lack water. It is true that camels and also donkeys can do without water for many days even in summer, but at this season camels should preferably be watered every two or three days, and goats are always watered every two days when the weather is hot. In winter the animals are not watered so often, and this is true particularly if the animals feed on fresh annual plants. Camels can do without water even for weeks and months under such favourable

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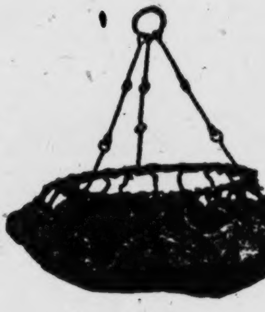

Fig. 97. The leather bucket known as *aje* to the Northern Tuareg. The leather is tied to an iron ring made by blacksmiths. Collected in Ahaggar by Olufsen. Dimension of the iron ring: 0.275 m in diameter. (N.M. G. 1.31).
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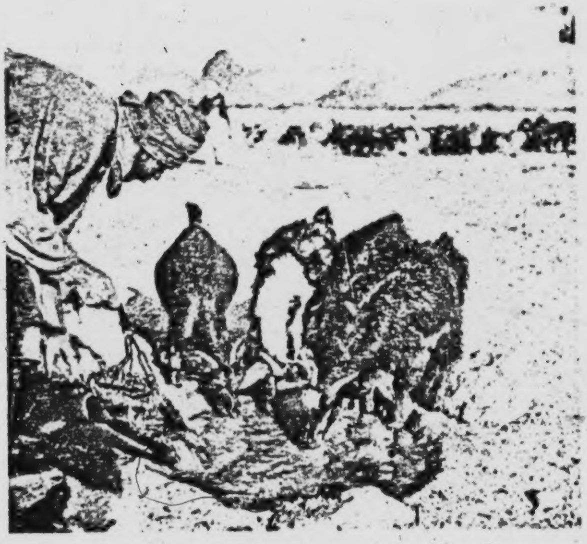

Fig. 98. A slave watering goats by means of the leather bucket called *aga*. Water is drawn from a well and poured out into a hole dug in the clayey ground. The goat standing to the left is sheared – a token of the summer season. Tasilé-n-Ajjer.

*233 conditions, and herdsmen, who live with camelherds far away from camps and wells subsisting on
[272] camel's milk, do not consider water necessary. Should domestic animals have eaten salt or salty plants
[271] they are very eager for water even in winter. When I lived in Ahaggar with my camels during the winter 1954/55 they had rightly to be watered every ten days, but in regions where they fed mainly on saliferous plants they had to be watered more frequently. However, domestic animals must not be watered too often as this would make them slow and emaciated, and a camel must not be worked too hard the day after it has been watered.

312 Tuareg camps are always found around wells, pools, or other types of water places for which there
[361] is a large vocabulary. But the Tuareg never camp too close to water places where there is little pasture, many foreigners and consequently little peace. The distance from camp to water place varies, but is
[132] very frequently 1–3 kilometres. During the rainy season (*akasa*) water is very aundant all over Ayr, but outside this period conditions of water supply for human beings and livestock are more favourable
[415] in the north than in Ayr, where water most of the year must be drawn from wells. To raise water the Tuareg use a leather bucket known to the Ahaggar Tuareg as *aga* (Fig. 97–98). The water drawn for
● [237] the animals is poured out into a hole dug in clayey soil, or into a hole covered with a piece of skin or leather known in Ahaggar as *tafarawt*. This skin is nowadays frequently substituted by canvas (cf.
312 Fig. 99). Where water is scarce and must be drawn from narrow wells, as in Ayr during the summer
578 season, the watering of flocks and herds gives rise to frequent quarrels between pastoralists. For
[423] though the right to the use of wells is free to all there are many disputes and fights frequently

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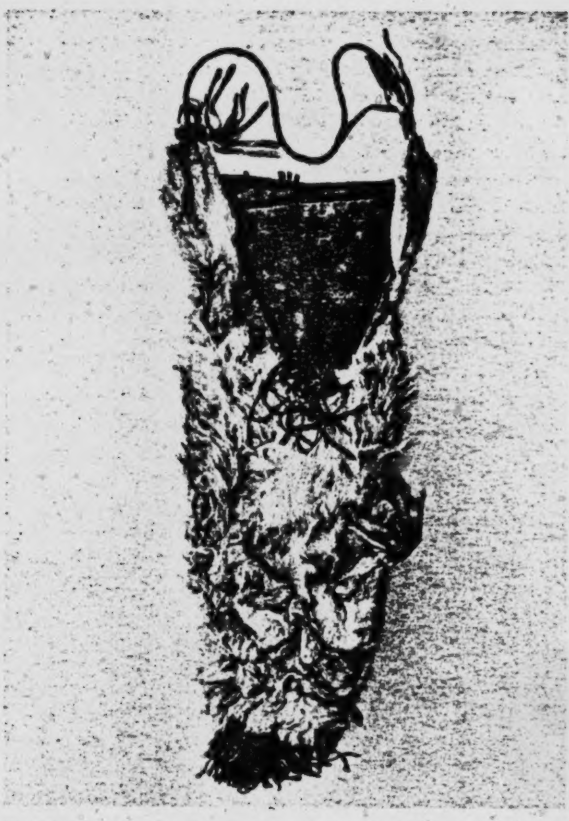

Fig. 111. Skin bag of *téchchékwat* type made from a jackal's skin. The Ahaggar Tuareg believe that people who conserve their money in a skin bag of this kind will have good luck in trading. Ahaggar, the *Dag Rali* tribe. Dimension: 0.63 m (F.M. 283).

Hunting

For the pastoral Tuareg hunting is not an important occupation, and nowadays it is practised mainly 224
by those few Tuareg who possess rifles or guns. Traditional hunting methods are thus of far less con- 411
sequence than in the past, but some of them are very interesting and most significant for a historical 121
analysis of Tuareg culture.

AHAGGAR

Northern Tuareg areas are not very rich in game. In Ahaggar the main types of game are the gazelle 136
(*ahenkod*, fem. *tahenkot*; *Gazella dorcas* sp.) and the barbary sheep (*udad; Ammotragus lervia*). The 224
big gazelle (*énir; Gazella dama permista*) and the addax antelope (*amellal; Addax nasomaculatus*) are
very rare; they are occasionally seen in the plains outside of the mountains. The ostrich (*auhel*;
Struthio camelus) was very common in the past, but is now exterminated.

The small gazelle is rare and shy within the Ahaggar Massif, while fairly abundant and comparatively 224
easy to hunt with a rifle in the northernmost massifs and their surrounding plains. Of seven camps
visited in Ahnet 1954, gazelle hunting was engaged in by the members of two households, and I estimate
that they killed one or two gazelles every week. In most camps of the Northern Tuareg there are no 262
true gazelle hunters, and when a rare gazelle is killed its meat is easily eaten in one day by the members
of a single household – in addition to three or four pounds of wheat-bread or millet-porridge. Gazelle 237
skin is of little practical value to Tuareg craft. It is not generally used for the manufacture of important
domestic articles such as water bags and containers for milk and butter, but it is suitable and much 283
esteemed for certain types of decorated leather work and for fine leather cords, e.g., necklaces for
amulet cases, reins for riding camels.

Barbary sheep are extremely shy, and they live mainly in inaccessible mountains. They are still fairly common in certain isolated parts of the mountains, but they were more numerous in the past when hunting was practised without rifles.

The Tuareg estimate that the amount of meat obtained from two gazelles corresponds to the meat
of one grown goat, while a big barbary sheep provides as much meat as that of four goats. Meat of 251
barbary sheep is better suited for drying than meat of other game animals, and the thick hide of these 237
animals is valuable for the manufacture of tents and for large bags used for the conservation on 342
journeys of dates, grain, flour, and the like. The horns of barbary sheep are used as butter containers 415
(Fig. 165), and some Tuareg add the powder of crushed horns to butter before heating it (cf. p. 222).
Barbary sheep are of greater economic value to the Ahaggar Tuareg than other types of game, and

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is refused by noble Tuareg and in general also by vassals. One reason for this is that the Tuareg have 224
a myth saying that the *aɣata*-lizzard is the ancestor (the mother's brother) of the noble Tuareg. Some 565
vassals claim that it is the ancestor of all true Tuareg, but this statement does not agree with mythology 564
(cf. Benhazera 1908, p. 61). However, this lizzard is eaten mainly by slaves and by certain agriculturists, 262
though its meat is considered a remedy against snake-bite and scorpion stings (cf. Lhote 1951a, 257
p. 168 f.). The head of an *aɣata* is considered an excellent amulet against these poisonous animals 257
(Lhote 1951a, p. 168 f.), and the skin of this lizzard is not only utilized for the manufacture of amulet 237
cases but also for small bags of various types (Fig. 116a).

Small animals are not necessarily killed with any particular hunting implement. The animals may 224
be taken with the hand or killed with sticks and stones, as is the case with the hedgehog (*ékenisi*, 262
tékenisit), which is eaten by some people, and with small rodents. Even hares can be taken with the hand when they hide in the grass or under rocks. The hunter may then approach the hare swinging one of his sandals over his head. This, it is said, makes the animals believe that it is hunted by a hawk or an eagle, and it will therefore remain stubbornly in its hiding place. Even gazelle are sometimes taken without any proper hunting weapon. Some Tuareg say that on journeys through the barren desert country in the summer they have met gazelle so exhausted from thirst that they could take these animals with their hands. Although this is rarely possible, I know Tuareg who have crept up to gazelle hiding from the sun in daytime and killed them with a stone. Finally it can be mentioned that the

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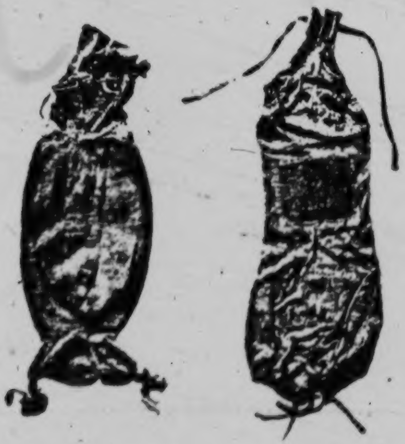

Fig. 116a–b. Two small skin bags.

a. Skin bag (*abelboḍ n aɣata*) made from the skin of the big *aɣata* lizzard (*Varanus* sp.). Ahaggar, *Ḥarratin* of Taɣhawhawt. Dimension: 0.325 m long. (N.M. G. 5834).

b. Skin bag (*abelboḍ n témerwelt*) made from hare-skin. Ahaggar, bought from *Ḥarratin* at Taɣhawhawt, manufactured in the *Afuh-en-tehlé* tribe. Dimension: 0.350 m long. (N.M. G. 5833).

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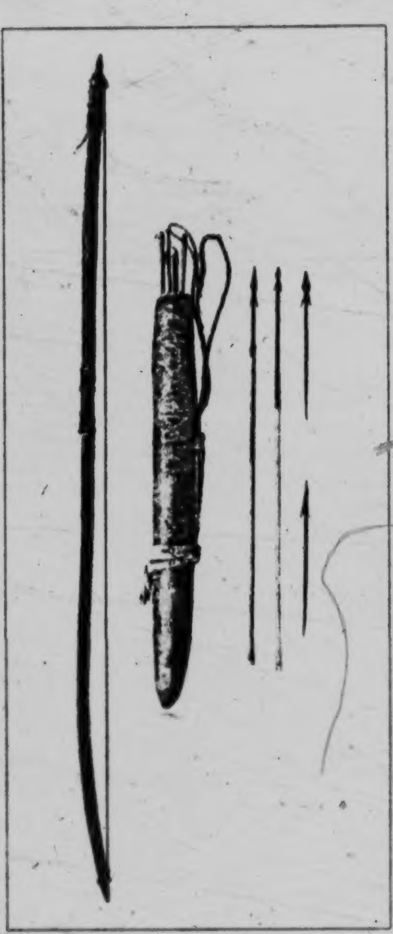

Fig. 119. Bow (*sagansé*), arrows (*imeran*), and quiver (*éhamaren*) from the Hausa-speaking population living south of Ayr around Aderbissinat. The bow is made from wood of a tree called *édinew* and has a string of ox-hide. The arrows have shafts of wood or reed; their iron points are made by blacksmiths. The quiver is made from ox-hide with a plaster of cow's excreta applied to the inner side. Dimension of the bow: 1.20 m. (N.M. G. 6621).

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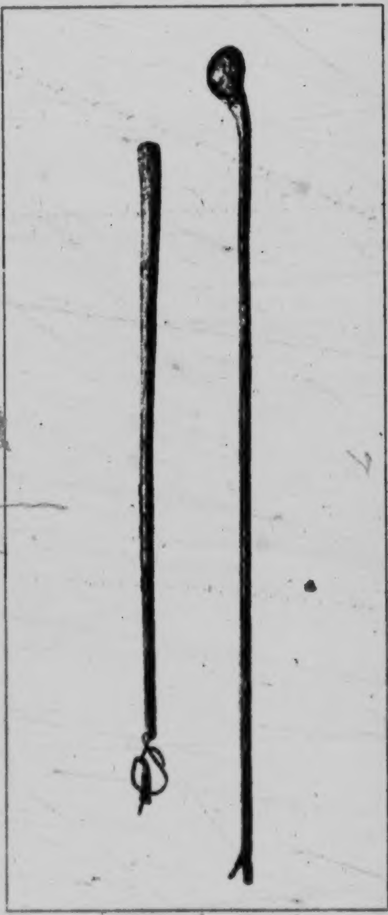


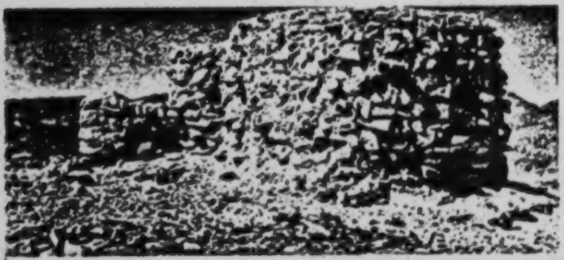
Fig. 120. Tuareg clubs.

a. Wooden club (*aburi*). Dimension: 0.995 m long. (N.M. G. 1.159). Ahaggar, Olufsen's Collection.

b. Wooden club. Used for weapon and for cattle-driving by Tuareg around Timbuktu. Made from a bough of *Combretum aculeatum*. Collected by O. Hagerup. Dimension: 1.39 m long. (N.M. G. 3086). All slaves I saw among the *Iwllemmeden* near Ayoru carried this weapon.

them. They are lined and covered with mats as in Ahaggar, and though they may be used for the 251
storage of wild seeds they are mainly used for grown cereals and are generally found in or close to 343
gardens. Grain silos built of stones and mud – the *tarassana* type of Ahaggar – are said to occur among the *Kel Ewey* but I have never seen such storerooms in their villages, nor have I met the typical African storeroom built of straw and resting upon poles until south of the Massif in Damergu where they are used by shifting cultivators. Large earthenware containers shaped like cooking pots are used [415]
to store vegetable products (cereals) in certain villages, particularly at Iferwan. Pastoral Tuareg of Ayr have the underground storerooms for the preservation of surplus grain and other vegetable products. Cereals to be consumed in the camps (notably millet) are kept in large skin-bags resting [415]
upon poles that they may not be damaged by white ants. The Ahaggar Tuareg also preserve cereals in their tents in skin-bags.

Irrigation agriculture is a strenuous task, but it is less influenced by climatic conditions than all 241
other occupations practised in the Sahara. The farmers are not exposed to the same disasters of drought [461]
periods as are pastoral Tuareg in the north, though it is said that rain is a direct blessing also to irrigated crops. But cultivated plants are exposed to certain dangers, e.g., locusts, and crops do not always thrive as they should. Bad luck in agricultural activities may in the opinion of the farmers be due to [272]
some mystical power or other. It may arise from incorrect treatment of cereals and dates so that they [278]
lose their *elbaraka*. Menstruating women, as mentioned above, are dangerous to vegetable food, and [841]
this is also true of the fire, for which reason one should never throw date kernels into the flames. The farmers also fear that their crops may suffer damage from the attack of the *Kel Asuf* spirits, and partic- [754]
ularly from the attack of the malignant force attached to the "evil eye" or the "evil mouth". To protect their crops the farmers frequently use amulets such as broken pots and skulls of domestic animals [237]
(notably of donkeys), which are considered an effective means against the "evil eye" and the "evil mouth" (cf. Nicolaisen 1961, p. 133 f., 160).



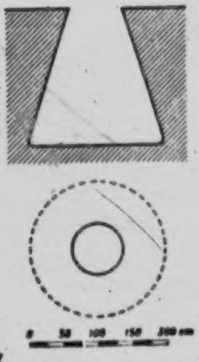


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Fig. 145. Grain silos of the *tarassana* type built of stones and mud. Ahaggar, Abalessa.
Fig. 146. Cross section of a subterranean storeroom for cereals, and the like (*égend*). Dimensions according to Foucauld: 2.00 m–2.50 m deep, 2.00 m in diameter at the bottom, 0.75 m in diameter at the surface (cf. Foucauld 1951–52, I, p. 459 f.).

[text continues on p. 209]

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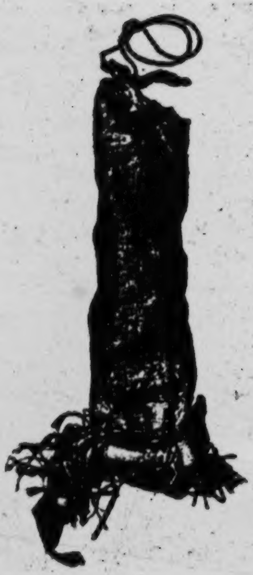

Fig. 155. Skin bag (*tasufra*) for the conservation of butter-milk on journeys. The bag is made from an entire goat-skin and has a handle of goat-hair cord tied to the skin patches of the hind legs. A leather handle is attached to the lower part of the bag which is ornamented with leather fringes, Ahaggar, the *Ajuh-en-tehlé* tribe. Dimension: 0.77 m long without the fringes. (F.M. 89).

They^1 churn most butter from cow's
234 262 milk, and this butter is not considered as delicious by the Ahaggar Tuareg as their own butter, churned
mainly from goat's milk. – The use of wooden churning sticks by means of which milk is stirred in
234 an open container is unknown in Ahaggar and Ayr, so far as I know. Churning sticks are used in
412 other Tuareg groups. They are common among the Tuareg of Adṛaṛ-n-Foṛas (Musée d'Ethono-
184 graphic, Neuchâtel, no. 49.2.44 & Musée de l'homme, Paris, no. 38.16.48) and among the *Iwllemmeden*
171 Tuareg and the Fulani (Musée de l'homme, Paris, nos. 41.19.411 & 41.19.1326).

234 All Northern Tuareg, as well as the Northern Arab pastoralists and semi-nomadic Berbers and
171 Arabs of the Atlas, make cheese from butter-milk, while this type of cheese is unknown among the
184 Southern Tuareg and also among the Fulani. In Ahaggar butter-milk cheese (*awles*) is manufactured
462 by women in the following manner:— Butter-milk is heated over the fire in an earthen pot (*téṛirt*, or *ufrun*)
*415 (Figs. 186, 187a–b) by which process the milk is divided into two parts, namely pure water and a curdled
mass of milk (*akru*). This mass of curdled milk is placed in a special basket (*aragus*) (Figs. 167a–b) hanging from a tree or a similar object to sort out the whey. Thus there remains a mass of cheese in the basket, and this mass is formed into small round pieces to be left for drying. Butter-milk cheese is manufactured in this way by all Northern Tuareg who are thus able to obtain butter and cheese from the same milk.

234 Another type of cheese is made from fresh milk and is manufactured not only by the Northern

171 ^1[i.e. the Ayr Tuareg -- Analyst]

Tuareg but also by the southern groups and by Arab pastoralists of the Sahara; it is also known in 234
the Atlas, and is on the whole widely distributed in Northern Africa. This type of cheese is known to [171]
the Northern Tuareg as *takammart* and it is manufactured as follows:— Fresh milk is heated and [415]*
then poured into a large wooden bowl (e.g., *tareḥut*) (Figs. 195a–b). The milk is curdled into a mass
of cheese by means of a rennet (*akammar*) consisting of the abomasum of kids that have never tasted
anything but milk. The curdled mass of cheese is pressed with the hands and with a piece of straw- [215]
mat (*éseber*) in order that the liquids may separate. The mass of cheese is formed into small rectangular
pieces of cheese which are left on the little straw-mat for about one day. They are then removed to [417]
be dried finally on a platform (*tahaḍa*, *taḟalkat*) made of branches.

Cheese made from fresh milk is known to the Ayr Tuareg as *tekemmart*; it is manufactured to very
great extent and much in the same fashion as just described from Ahaggar. The abomasum of little [824]
kids or lambs to be used for rennet is named *tedeṛant*, and the Ayr Tuareg add parts of an annual
plant known as *ekochmaren* (*Caralluma Mouretii*) in order that the milk may curdle quickly. The [285]
Ayr Tuareg also use little mats plaited from stems of the *afezu* grass (*Panicum turgidum*) to press and
form the rectangular pieces of cheese; the Ayr Tuareg make mats (*tésebert*) (Fig. 168) particularly
for this purpose, while the Ahaggar Tuareg generally use an old piece of a tent mat (*éseber*). In Ayr
the rectangular pieces of cheese are dried on bunches of hay placed in trees (acacias), or on the top
of the mat-covered tents.

The *takammart* or *tekemmart* type of cheese made from fresh milk is in high esteem as food among 262
all pastoralists of the Sahara. It is generally eaten when newly-made and soft, though it may also be 251
stored. The Ahaggar Tuareg make this type of cheese only when milk is plentiful, while the Ayr Tuareg 234
manufacture it most of the year though the main season of cheese-making is the season of *akasa*. 221

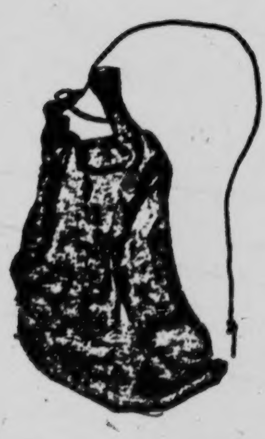

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Fig. 156. Skin bag of the *émesesley* type used to sour milk before churning. Ahaggar, the *Afud-en-schlé* tribe. Dimension: 0.37 m high. (F.M. 170).

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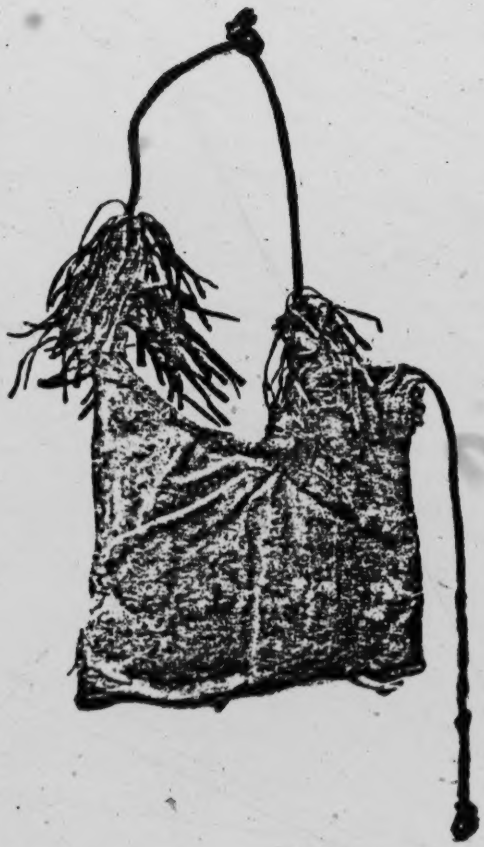

Fig. 157. Skin bag (*émesesky*) for souring milk before churning. Ahaggar, the *Dag Ɣali* tribe. Dimension: smallest height 0.20 m. (N.M. G. 5207).

234 Milk of goats, sheep, and cows is frequently mixed to make cheese of the *takammart* type, but milk of these domestic animals is also used individually for cheese-making. The very best milk is said to be sheep-milk which gives almost white cheese, while cow's milk yield a more yellow-coloured one. –
128 The use of milk, butter, and cheese in connection with various vegetable dishes will be described later in this chapter, and we shall now briefly outline the use of meat and its preparation.

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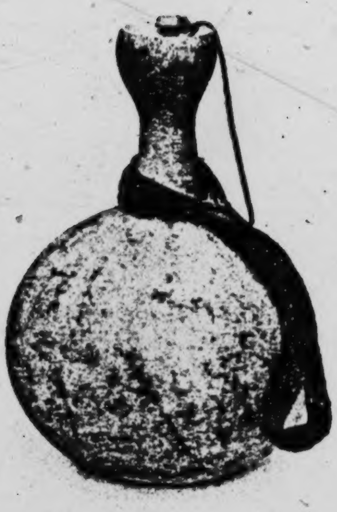

Fig. 159. Calabash (*azenu*) of the type used by Ayr Tuareg for milk and for churning butter. It is provided with a wooden stopper and a handle plaited from goat-skin. Ayr, the *Imezzureg* tribe. Dimension: 0.30 m. (N.M, G. 6664).

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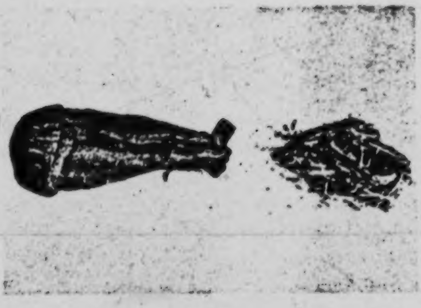

Fig. 160. Skin bag (*abelbod*) containing parts of the annual plant *aynesnis* (*Chlamydophora pubescens*) which are added to butter before heating in an earthen pot. Ahaggar, the *Agub-en-tehlé* tribe. Dimension: the skin bag is about 0.15 m long. (F.M. 153).

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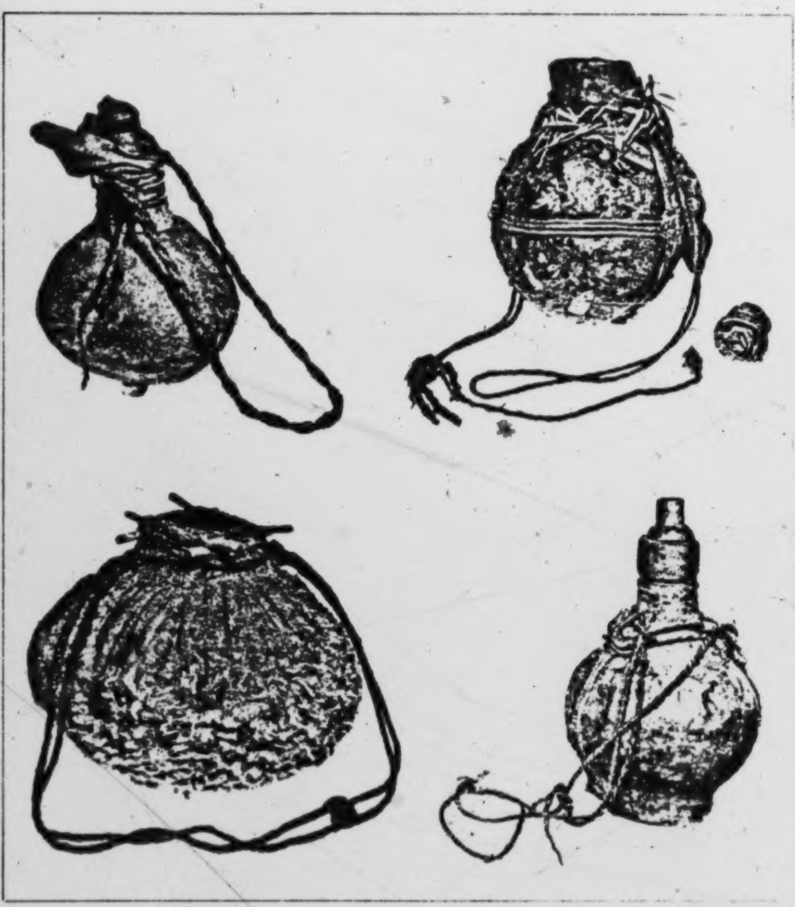

Fig. 161 a–d. Butter containers of the *tahattint* type made from camel's hide.

a. Provided with a leather stopper and a cord of goat's hair. Dimension: about 0.24 m high. Ahaggar, the *Aġuh-en-tehlé* tribe. (F.M. 113).

b. Made from camel's hide covered with goat-skin leather. The leather stopper is seen to the right. The handle consists of cords made from goat's hair. Ahaggar, the *Aġuh-en-tehlé* tribe. Dimension: about 0.30 m high. (F.M. 91).

c. Large container with four sticks inserted around the opening and a handle of rope made from goat's hair. Ahaggar, the *Dag Ṛali* tribe. Dimension: about 0.36 m high. (F.M. 253).

d. Large container with a wooden stopper. Ahaggar, Olufsen's collection. Dimension: 0.60 m high the stopper included. (N.M. G. 1.45).

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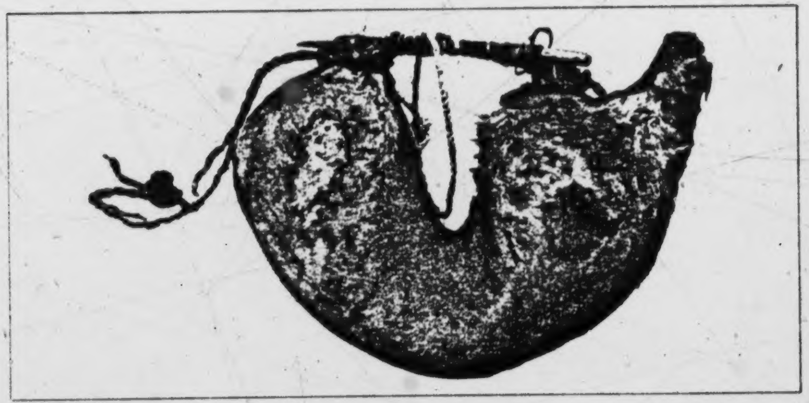

Fig. 162. Very large butter container (*aṛaňha*) made from the neck-hide of a camel. It is provided with a wooden handle wound with hide and with cords made from goat's hair and bast of *abseṛ* (*Acacia Raddiana*). Similar containers are also used for the conservation of cereals. Ahaggar, the *Dag Ṛali* tribe. Dimension: 0.62 m long. (N.M. G. 5201).

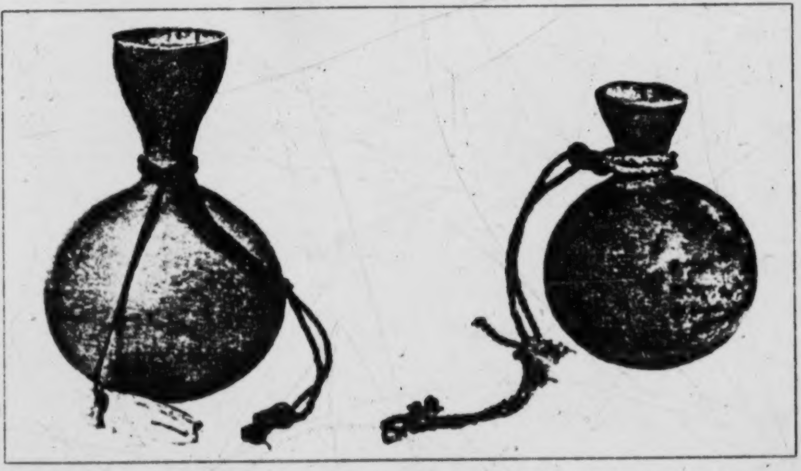

Fig. 163a–b. Calabashes used for storing butter in Ahaggar but introduced from the south (Ayr).

a. Calabash (*azenu*) with a wooden stopper fastened to a leather strap and provided with a handle of cord made of goat's hair. The wooden stopper is called *azhaṛ*. Ahaggar, the *Aǧuh-en-tehlé* tribe. Dimension: 0.620 m high. (N.M. G. 5206).

[484] b. Calabash (*tazenut*) with a handle of white goat's hair. Used for transportation of butter on journeys. Ahaggar, the *Dag Ṛali* tribe. Dimension: 0.175 m high. (F.M. 252).

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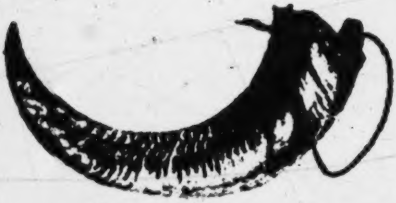

Fig. 165. Horn (*isek*) of barbary sheep used for storing butter for greasing the hair. The opening is closed with a piece of date palm bast (*asan*), and the edge is pierced with a glowing awl (*éudel*) for the insertion of a cord of goat's hair by means of which the horn is attached to the tent ceiling. Ahaggar, the *Dag Rali* tribe. Dimension: 0.30 m long. (F.M. 236).

252 the Tuareg in the past. I believe that they were made by blacksmiths or imported from the north.
*415 Pastoral Tuareg do not manufacture earthen pots which are obtained from sedentary people. The
[222] cooking of meat is perhaps not a traditional method of food preparation to the Tuareg, though they
seem to have used cooking pots for centuries.

252 A method of meat preparation undoubtedly introduced recently among the Tuareg, is that of spit
177 roasting. Meat roasted in this way is known as *mechwi*, a word of Arab origin, and the Northern
Tuareg have taken over the method from the Arabs. The *mechwi* method is also known in Ayr, where
it has perhaps been introduced by French administrators who had learned to appreciate meat thus
252 prepared during their visits among Northern Tuareg and Arabs. Pieces of sheep and goats and entire
animals are prepared in this way (Fig. 174), and the meat should preferably be prepared with
butter and red pepper before roasting.

The traditional Tuareg roasting method is to place entire animals (goats, sheep), or parts of them, under the hot ashes of the fire. This method is known to the Northern Tuareg as *abatul*, to the Tuareg of Ayr as *ébewil* (Fig. 175). This method of roasting meat is practised everywhere among the Tuareg, and it is on the whole similar to the method used for bread-baking described below (p. 238 f.).

Meat-roasting in the ashes is no doubt an ancient Tuareg method of food-preparation, and this also holds good for another method described in connection with the preparation of milk, namely food preparation by means of hot stones (cf. p. 221). The Ahaggar Tuareg prepare the stomachs of goats, sheep, and barbary sheep in this way, putting hot stones into the stomachs, while camel stomachs are boiled in a cooking pot and gazelle stomachs roasted in the ashes according to the *abatul* method mentioned above. These rules of food preparation seem also to be practised by the Ayr Tuareg, who put hot stones into stomachs of sheep and goats together with small pieces of meat. A stomach of goats or sheep prepared in this way, however, is given a final treatment in hot sand or in ashes close to the fire. The stomach of sheep or goats cooked with hot stones is known as *tarafa*, and a related word seems to be known also in Ahaggar (cf. Foucauld 1951–52, IV, p. 1583).

[262] The Tuareg eat most entrails of their slaughtered animals. Entrails of camels are normally boiled, and kidneys of all animals are prepared in this way. Most entrails of goats and sheep (liver, heart, and lungs) are roasted on the embers or in the ashes, and in Ayr the Tuareg roast fat put into the abomasum (*tederant*). The Northern Tuareg generally prepare liver and fat together in the following manner:— The liver is roasted upon the embers, is thereupon cut into small pieces which are wrapped

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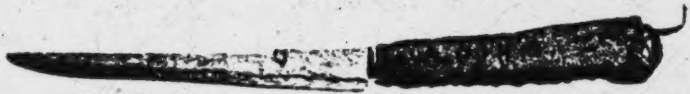

Fig. 171. Ordinary meat-knife (*elmusi*) of the type used among Northern Tuareg and Arabs. Its broken handle is mended with hide of barbary sheep sewn with leather thread. Ahaggar, the *Dag Ṛali* tribe. Dimension: 0.28 m (total length). (F.M. 249).

All knives are manufactured by blacksmiths.

wheat bread is eaten particularly during migrations and on trading expeditions, or in periods when 262
butter is rare (Lhote 1955a, p. 262). This statement disagrees with my own experience. Wheat bread [114]
is an ordinary diet of many Northern Tuareg. Bread is also baked from barley and from certain wild [224]
seeds (notably *tawit*, *Chenopodium Vulvaria*; *éhéyefyef*, *Aizoon canariense*; *tullult*, *Aristida pungens*) and wild roots (*ahahel*, *Cistanche Phelypaea*), while millet and sorghum are considered less suitable
for baking. Seeds are generally prepared for baking by grinding them into flour by saddle querns or 252
handmills. In Northern Tuareg country there are two types of bread which have been introduced as [172]
a result of contact with Arabs or the Arabic-speaking *Ḫarratin*. One type is named *elfetai* and is baked

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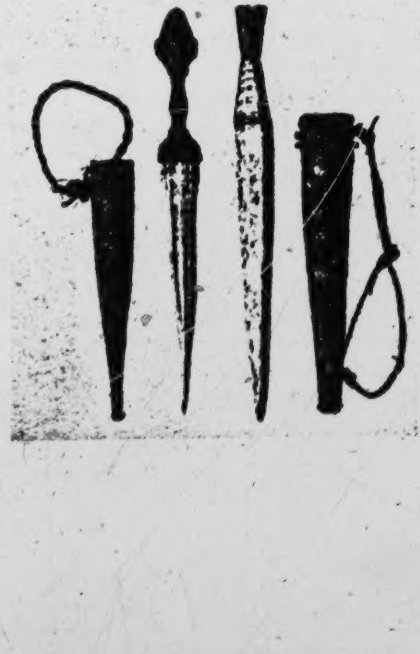

Fig. 172a–b. Meat knives.

a. Knife (*ézegiz*) of Tebu type to be carried in its sheath around the upper arm. These knives are sometimes used in Ayr. Agadez. Dimension: 0.370 m. (total length). (N.M. G. 6620a–b).

b. Knife (*ézegiz*) of the double-edged type normally used in Ayr. The *Imezzureg* tribe. Dimension: 0.377 m (total length). N.M. G. 6665a–b).

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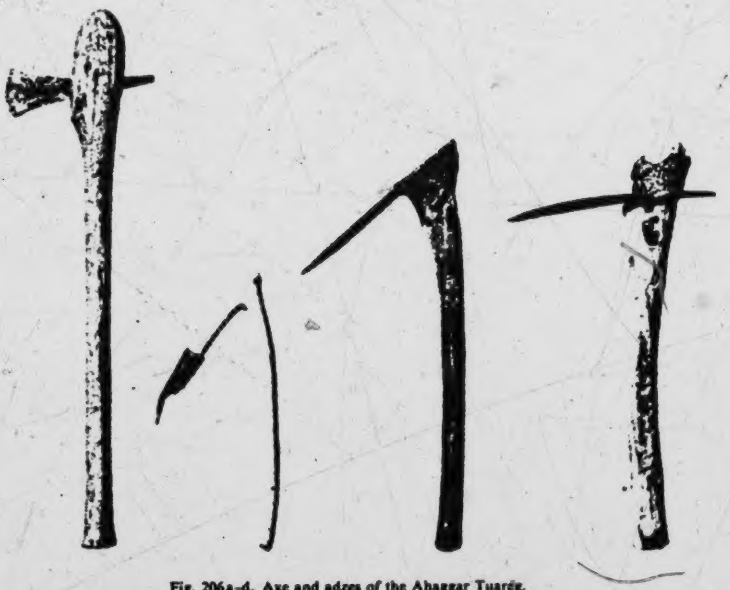

Fig. 206a–d. Axe and adzes of the Ahaggar Tuareg.

- a. The ordinary axe (*tadeft*) which is found in all Tuareg camps. Ahaggar, the *Aǧuh-en-tehlé* tribe. Dimension: 0.572 m long; dimension of the iron blade: 0.157 m long, 0.053 m broad. (N.M. G. 5233).
- b. *tattawt*, a small socket-shafted adze with knee-shaft. Adzes of this type are common in Tuareg camps. They are used mainly by women for wood-carving. Ahaggar, the *Aǧuh-en-tehlé* tribe. Dimension: 0.301 m long. (N.M. G. 5232). [322]
- c. *tékadimt*, adze shafted by means of a piece of sheet-iron and nails. Ahaggar, blacksmiths of Abalessa. Dimension: 0.440 m long; dimension of the iron blade: 0.150 m long, 0.058 m broad at the edge. (N.M. G. 5864).
- d. *tékadimt*, slot-shafted adze. Ahaggar, blacksmiths of Tamanɣaset. Dimension: 0.430 m long; dimension of the iron blade: 0.222 m long, 0.065 m broad at the edge. (N.M. G. 5865). [564]

The axe and the adzes are all made by blacksmiths.

The very best ropes or cords manufactured by the Ahaggar Tuareg are those made from goat's 283
hair which is sheared with a knife by the women once a year in the hot season. These ropes are known [237]
to the Ahaggar Tuareg as *ihellumen* (sing. *ahellum*), while the proper term for a rope of goat's hair [233]
in Ayr is *azaw*. But the Ayr Tuareg do not make such ropes as they have goats of the short-haired
breed (p. 33). They obtain their ropes from the Ahaggar Tuareg. Ropes of goat hair are manufactured [438]
by women by the following method:— The mass of hair, known as *éhafilen*, is placed upon a piece [462]
of skin and is prevented from blowing away by means of a stone. The hair is then taken out in small quantities with the first and second fingers of the left hand to be spun upon a stick 30–40 cms long.

[text continues on p. 266]

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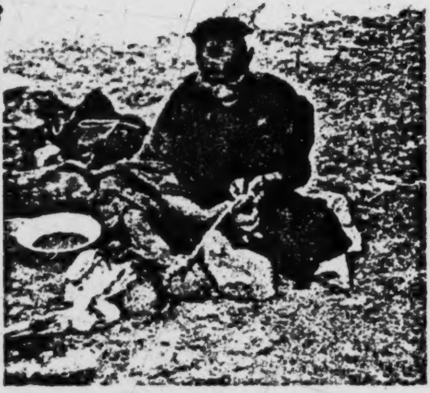

Fig. 207. Tuareg making a hobble-rope (*tedfart*) of date palm bast (*asan*). Ahaggar, the *Kel Rezi*.

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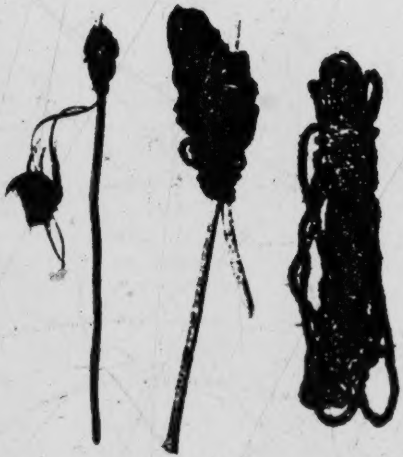

Fig. 208. The manufacture of a cord of goat's hair: (1) the hair (*éhafilen*) is spun around a little stick (*aseggelem*). (2) The spun hair is trebled and twisted into a thread known as *tassarkit*, or *tassagit*, between two sticks (*iseggelam*, sing. *aseggelem*). (3) The finished cord (*ahellum*) which is made by trebling the *tassagit* thread. Ahaggar, the *Afuh-en-tehlé* tribe. Dimension of the *aseggelem* stick to the left: 0.41 m long. (F.M. 74, 120, 122).

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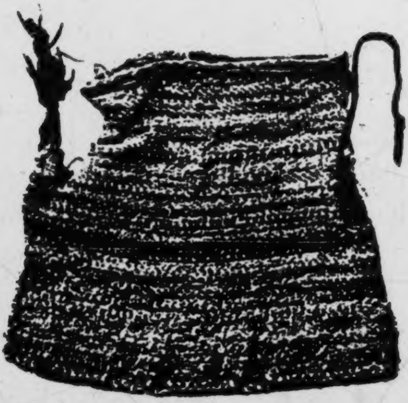
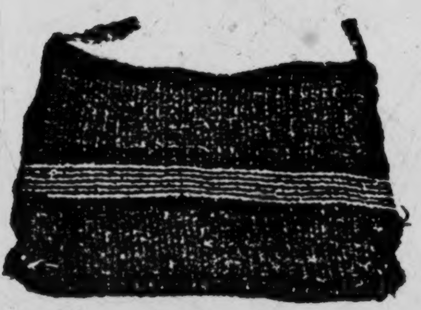


Fig. 209a–b. Two bags (*téɣerit*, pl. *tiɣrar*) plaited from hair of goat and camel.

a. Bag woven from hair of goat and camel and reinforced with leather around the opening. It is made into two halves which are sewn together. Ahaggar, the *Dag Ɣali* tribe. Dimension: 0.405 × 0.480 m. (N.M. G. 5245).



b. Bag woven exclusively of goat-hair. It has two leather straps for suspension. Dimension: 0.34 m long. Ahaggar, the *Dag Ɣali* tribe. (F.M. 259).

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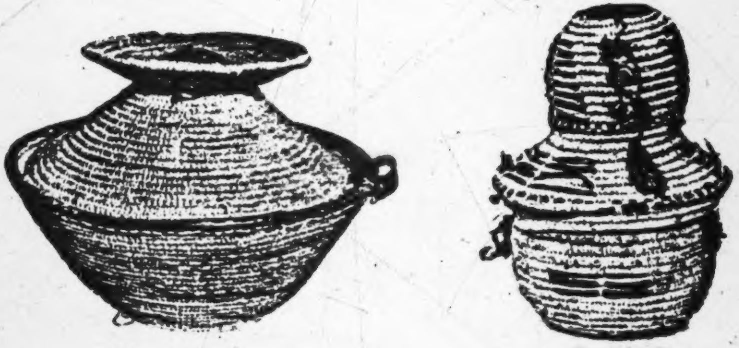

Fig. 210a–b. Two coiled baskets provided with lids.

[462] a. *taklulit*, basket plaited from pieces of palm leaves (*aṛum*) and reinforced with coloured leather (goat-skin). Manufactured by women of the sedentary *Kel Ṛat* in Tasilé-n-Ajjer, bought from blacksmiths at Tamanṛaset in Ahaggar. Dimension: 0.13 m high. (F.M. 227).

b. *adabun*, basket plaited from pieces of palm leaves (*aṛum*). It is ornamented with coloured leather thread and with woollen yarn. Ahaggar, blacksmiths at Abalessa. Dimension: 0.205 m high. (N.M. G. 5837a–b).

283 This stick, which is held in the right hand, is turned around its own axes while the hair taken out from the mass with the left hand is occasionally moistened with water or with spittle. The stick upon which the hair is spun is known as *aseggelem*. I have noted in Ahaggar that a length of 50–60 metres of spun hair can be made in about twenty minutes. Such a lenght of spun hair is trebled and attached to two sticks also known as *aseggelem* (pl. *iseggelam*). It is twisted together by two women each holding one of the sticks, and may be conserved for some time before it is finally made into a rope by further trebling and twisting (cf. Fig. 208). Certain cords to be used in connection with riding camels (e.g., reins) are not twisted in the above manner, but are plaited (cf. Fig. 51). The spun hair is used for the manufacture of certain objects without twisting (cf. Fig. 167a–b). Lhote states that the hair growing on the knees and neck of barbary sheep is also used for spinning (Lhote 1955a, p. 319).

[237] [286] 286 * [415] [114] The Northern Tuareg spin camel's hair or wool (*teḍuft*) which is used for very few purposes (cf. p. 67). But camel's hair is sometimes mixed with goat's hair to be spun for thread used for a primitive type of weaving; true weaving is an unknown craft among the Tuareg while important to Arab pastoralists of the Northern Sahara. The Tuareg type of primitive weaving with spun hair is carried out with no other implement but the hand; it is used for small transportation bags known as *tiṛrar* (sing. *téṛerirt*), a word, according to Foucauld, derived from Arabic (cf. Foucauld 1951–52, IV, p. 1776) (cf. Fig. 209a–b). I have myself never had the opportunity to see how weaving of this type is done.

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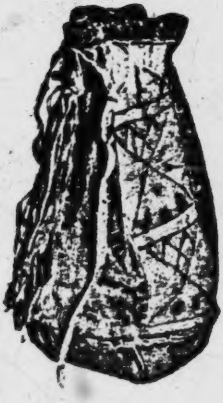

Fig. 224. Decorated skin bag (*abelbod*) for the conservation of tea leaves. Ahaggar, the *Aguh-en-tehlé* tribe. Dimension: 0.25 m long. (F.M. 151).

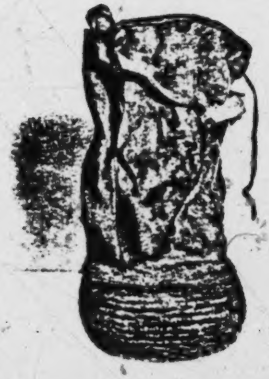

Fig. 225. Skin bag known as *alegutgut* (pl. *alegutguten*). The specimen depicted is an old bag which shows that the bottom consists of a bowl plaited in coiled technique and covered with leather. New bags of this type are ornamented with leather fringes. These bags are used for the transportation of tea glasses, sugar, and the like. The correct name of such bags according to some Tuareg is *eggebankob* (pl. *eggebankobben*). Ahaggar, the *Aguh-en-tehlé* tribe. Dimension: 0.33 m high. (F.M. 80).

413 used to burn marks of property into camels and donkeys. The large awl may also be employed for
[321] wood and horn work after heating in the fire. Horn or bone material, however, plays a little part to
[757] the Tuareg. A horn implement common to all Tuareg is that depicted Fig. 230; it is used for sucking
out blood of sick persons after bleeding and is widely known in the Sahara. Arm rings (sing. *éwekl*)
237 made of horn are worn by many adult men among the *Kel Ajjer*, but are rare in Ahaggar. Among the
[301]

[Text continues on p. 282]

237 Ayr Tuareg a piece of ram's horn may serve as an amulet case attached around the upper arm. Horns *[415] of barbary sheep are used for butter containers among the Northern Tuareg (cf. p. 223; Fig. 165), who sometimes use a piece of pointed gazelle horn for daubing antimony around the eye.

281 The Ahaggar women cut skin and leather with a small knife (*telmusit*), and a piece of wood (*asettenu*) 462 and/or a stone (*tazzet*) are used for smoothing the skin which is then placed upon a particular wooden [413] board (*elkeyleb*) (cf. Figs. 219a–d). The Ayr Tuareg do not make so much refined skin work. Women *[445] among the Northern Tuareg conserve their implements for skin and leather work in a particular bag (*askagen*) which is made from leather attached to a bottom piece of horn (*isek*) (Figs. 220a–g). [531] Northern Tuareg women take a great interest in their skin and leather artifacts, which are richly decorated with fringes and hanging tassels, and with geometric designs in different colours. I have 386 noted the following colours among the Tuareg of Ahaggar and Tasilé-n-Ajjer:—

822 (1) *baba*, indigo which is introduced from the south in the form of balls.

(2) *tawnkent*, which is also known as *tafidet* and *tanezezzeft* according to Foucauld 1951–52, IV, p. 1934. It is a yellowish mineral which yields an entirely black colour frequently seen on ornamented skin bags. The mineral according to the Ahaggar Tuareg is introduced from the south, while the Tuareg of Tasilé-n-Ajjer claim that they obtain their minerals of this type from Serdeles north-east of Rat. – A black colour which is also known as *tawnkent* is said to be made by the Tuareg of Ahaggar in the following way:— Pieces of iron are put into water contained in some small receptacle, usually a tea glass. This receptacle containing water and iron pieces is covered with a bowl or a similar object in order that the sun light cannot penetrate. After a few days the water turns into a black colour to be used for skin dyeing.

(3) *semento*, a green colour derived from a mineral or a powder introduced from the south. According to some Tuareg this green colour is also made by means of a vegetable powder introduced from the north, from the region of Mzab.

(4) *khodarbas*, a powder which yields a green colour. It is said to be introduced from the south (from Tawa) and to derive from a tree known as *tafnit*.

[824] (5) *errumman*, the fruit of the pomegranate tree known as *terrummant* (*Punica Granatum*). It is used with a white mineral (alum), known as *azref n Tawat*, and introduced from In Salah. Parts of the pomegranate fruit and of this mineral are mixed with water to be used for a yellow or yellow-brown dye which is applied to many decorated skin bags for ground colour.

(6) *temesaruak*, a mineral introduced from the north (Mzab). It produces a yellow colour.

[243] (7) *herki*, a reddish brown colour obtained from a particular type of sorghum known as *tullak* grown in the cultivation centres of Ahaggar.

(8) *tédersé*, a white colour obtained by placing the skin for about three days in a container with fresh milk to which a little salt is added. – Among Tuareg of Tasilé-n-Ajjer I was told that a white colour is also obtained from a kind of powder introduced from the Sudan.

386 Before use these above mentioned colours or dyeing materials are generally dissolved in water [531] contained in a tea glass. When they are employed for the very fine geometric designs of leather bags they are daubed with a small knife known as *telmusit* (Fig. 219b).

[439] It is interesting that most dyes used by the Northern Tuareg are introduced from the north or from the south,

[text continues on p. 284]

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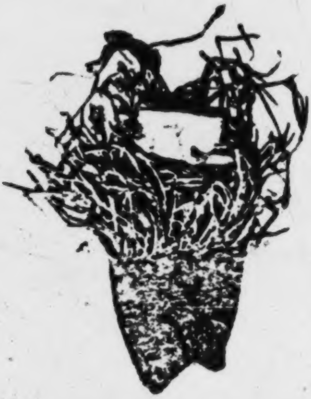

Fig. 229. Tobacco bag (*abelbod*) with the bottom made from the scrotum of a goat. Ahaggar, the *Ağuh-en-tehlé* tribe. Dimension: 0.22 m deep. (F.M. 94).

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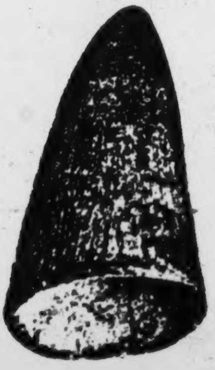

Fig. 230. Piece of ox-horn (*ésafé*) to suck out blood of bled persons. Ahaggar, the *Ağuh-en-tehlé* tribe. Dimension: 0.09 m. (F.M. 148).

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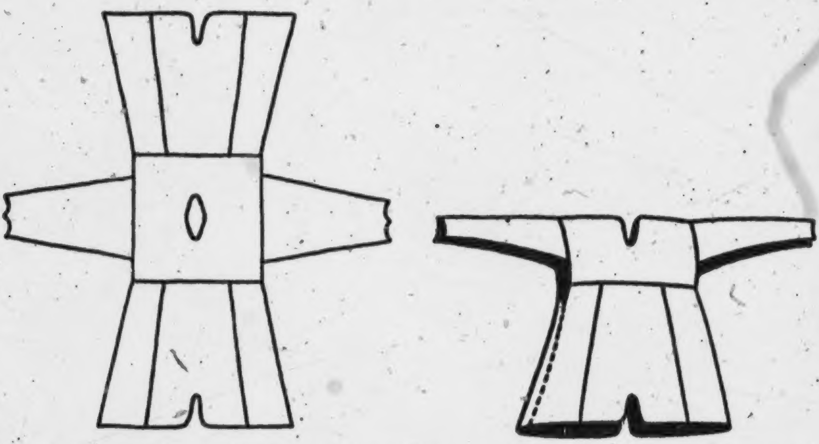

Fig. 232. The cut of a leather shirt (*tébetiḳ*) from Ahaggar. The shirt is ornamented with leather fringes along the seams and at the ends of the open sleeves. The shirt is made from sheepskin dyed with indigo. Ahaggar, the *Kel Inɣer* tribe. Dimension: 1.15 m long, 0.60 m wide at the waist. (Musée de l'homme, No. 41-19-1645).

291 [237] I have never seen a skin shirt among the Tuareg, but it seems as if skin shirts are worn in certain parts of Ahaggar even at the present time. They are described from the regions north and east of the Kudia, and are made by certain tribes of the *Iseḳḳemaren* who use skin of barbary sheep or goats for the lower part of the shirt, fine goatskin for the upper part covering the shoulders, and gazelle skin or the skin of kids for the sleeves (Mounier 1942, p. 158). A skin shirt is found in the "Musée d'Ethnographie et de Préhistorie du Bardo" in Algiers. It is called *tébetiḳ*, and is described as follows:—

291 294 "Le corps de la tunique figurée est fait de trois pièces de cuir: une pour les épaules et la poitrine, avec un trou pour passer la tête, deux autres pour le devant et le dos. Ces deux dernières pièces sont reliées sur le côté par deux bandes de cuir verticales; le tout formant une sorte de robe évasée à la base. Les manches sont ouvertes dans le sens de la longeur, donnont ainsi liberté complète aux bras. De petites franges de cuir très fines décorent l'ensemble à l'emplacement des coutures. – Dimensions: hauteur totale 1.20 m; taille 45 cm; manche 55 cm. Inventaire du Musée: F 9". (Balout 1959, pl. VI).

291 The above-described shirt is clearly of the poncho type, and this is also the case with three leather shirts preserved in the "Musée de l'homme" in Paris. The shirts seem to be identical in cut and size, [281] and are here briefly described by reference to one of them. It is made from tanned and depilated sheep skin, dyed with indigo. Its total length is 1.15 m and width at waist 0.60 m. Its museum number is 41.19.1625 and it is said to have been manufactured by a woman of the *Kel-Inɣer* tribe (*Iseḳḳemaren*). [292] It is also stated in the museum's card-index that such shirts are worn by poor people in Téfedest and by *Dag Ṛali* slaves.

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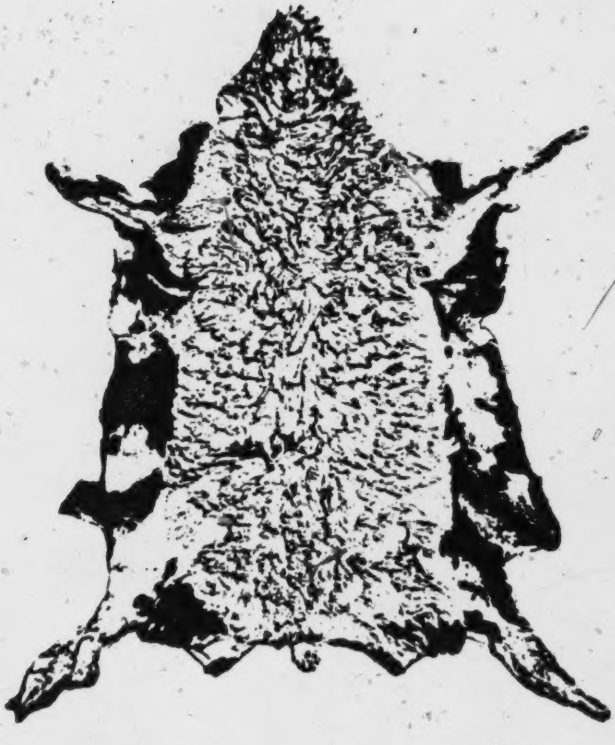

Fig. 240. Sheep-skin (*aglim*) to be worn over the back with the hairy side turning inward in cold weather. Dimension at the middle: 1.170 m long. Ahaggar, the *Afuh-en-tehle* tribe

29/ [237] Ayr Tuareg up to the French occupation of Ayr (cf. Musée de l'homme, card-index 41.19.847). The skirts mentioned are made from goat-skin, and this is also the case with two other skirts found in the collection of the Paris museum. These latter skirts differ from those mentioned above in that they

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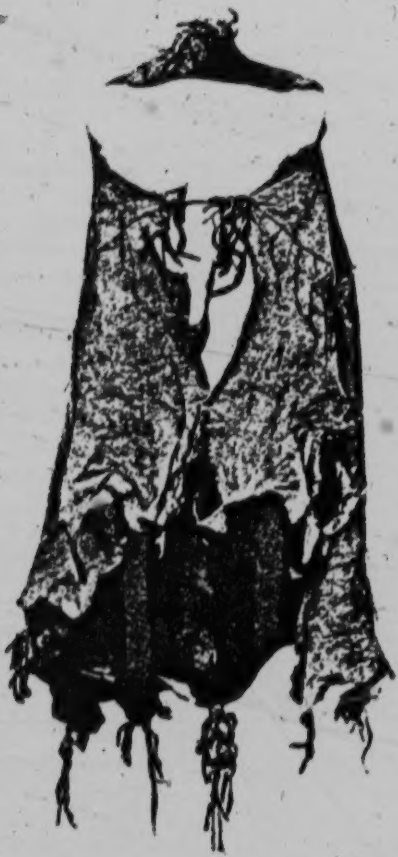

Fig. 241. Skin mantle made from several pieces of hairy goat-skin sewn together with leather thread. It is known as *taflemin* (sing. *taflimt*). Ahaggar, the *Dag Ġali* tribe. Dimension: 0.99 m without the fringes. (F. M. 281).

are somewhat longer, and provided with two shoulder-straps. The skirts were collected by Lhote in 29/ 1939 in the region of Ansongo at the Niger, and derive from the *Kel es Suk* Tuareg. According to the card-index similar skirts are also worn by *Bélla* women of the *Dawssahak* and *Echcherifen* (Musée de

291 l'homme, nos. 41.19.1376 & 1377). A skin skirt suspended from the shoulders by means of two leather
straps also occurs among the *Iwllemmeden Kel Ataram* around Meneka and Gao (cf. Nicolas 1950a,
Fig. 38,7 p. 169, p. 176).

292 In case of severe cold a simple hairy skin mantle may be worn by both men and women of the
[232] Northern Tuareg. These mantles are not very common nowadays, when most Tuareg use woollen
[177] blankets introduced from the north, but they are still worn by vassals, slaves, and sedentary agri-
culturists of Ahaggar. A skin mantle is known as *aǧlim* and it frequently consists of a single sheep-
[294] skin worn over the back with hair inside (Fig. 240). But there are also larger mantles composed of
several hairy goat-skin and/or sheep-skin sewn together with leather thread by means of a little awl
(*tistent*). These larger mantles are attached around the upper part of the body by means of a leather
[184] cord around the neck (cf. Fig. 241). Skin mantles are said to be unknown in Ayr, and literature makes
no mention of them in other Tuareg groups.

178 Garments made from skin or leather are nowadays rare among the Tuareg. But the Tuareg, like
291 many other peoples who have given up the use of skin and leather for dress, still use this material
for foot-wear which comprises various types of sandals.

291 The common type of sandal used among the Tuareg is known as *iṛatimen* (sing. *éṛatim*) which
[237] word is also used more generally for sandals of other types. It is made from the hide of oxen and
sometimes of hides of the oryx antelope or giraffe whose hides are considered superior for sandals.
It is not manufactured by the Tuareg but by sedentary peoples of Agadez and other towns in the south.
438] The Northern Tuareg, like the Tuareg of Ayr, generally procure their sandals from Agadez where
the type is also known by the Hausa word *takelmi*. The manufacture of such sandals is described in
294 detail by Lhote, who states that the untanned hide to be used for soles is treated in the following
281 way:— (1) Beating with wood against a flat stone; (2) Softening in wet sand; (3) Continued beating
with wood against a flat stone; (4) Greasing with butter, tallow, or fatty vegetable substances; (5)
Continued beating in order that the fat may penetrate into the pores of the hide. A sandal is made
from two layers of hide thus prepared and covered with a tanned piece of sheep-skin which is dyed
and decorated. These three layers are sewn together. The sandal is finally provided with a leather
strap to pass between the first and second toes, and this strap again is connected with a broader band
of leather sewn to both sides of the hind part of the sandal so that the band supports the instep (Fig.
[114] 242b). The reader is referred to Lhote's study of sandals for further information about their manu-
facture (Lhote 1950d, p. 514 ff.). The *takalmi* sandals are excellent for many purposes: They are
291 easily pulled off and put on which is advantageous to camel riders who ride bare-footed but frequently
dismount, and then need their sandals put on quickly because of the burning sand and rocks. The
[132] very broad soles of this sandal type is also very advantageous not only as protection against the
burning soil, but also against the numerous acacia thorns lying so to speak everywhere in the river
valleys. But the Tuareg do not wear sandals of this type just because they find them practical and
efficient. They also wear them because they are considered more beautiful in shape and colour than
[285] other sandal types made by the Tuareg themselves. Among the Ayr Tuareg a particular type of sandal
is plaited from dum palm leaves. According to Lhote this plaited sandal is known as *slisleplatine*
(Lhote 1950d, p. 522, Fig. 10 p. 521, pl. XXII Fig. 1). I have never heard it called this, the name I

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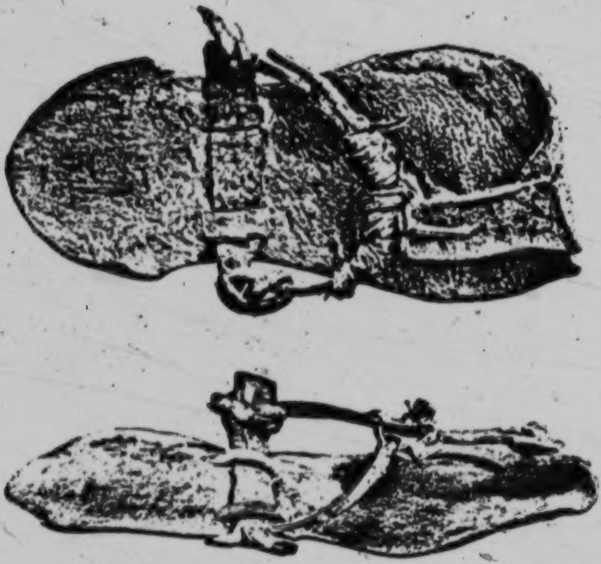

Fig. 243. Sandals resembling the *tagliezez* type but having no heel-straps. Ahaggar, Olufsen's collection. Dimension: 0.275-0.285 m long. (N.M. G. 1.8).

have heard being *éẓatim n sagayt*. It is provided with a strap of leaf passing between the first and second toes, and straps of the same material to support the instep. Thus it is kept to the foot in much the same way as the leather *takalmi* sandal, and there is possibly a historical relationship between the two types. Sandals made from plaiting dum palm leaves wear out rapidly but are quickly made. They are worn mainly by children and by very poor people.

[412] An extremely common type of sandal in Ahaggar is that known as *émerked* (pl. *imerkeden*). These
are never made by professional craftsmen, but are manufactured in Tuareg camps by vassal women
● [237] who use the large awl (*éndel*) for sewing sandals. They are made of the tanned skin of sheep and
294 goats, or the skin of oxen if this is available. The sandals, almost rectangular in form, are made from
several layers of tanned skin sewn together with leather thread. At the back of each sandal two leather
loops are inserted in, and sewn to, the leather layers, while a long leather strap is inserted in and sewn
291 to, the fore part. The sandal is kept firmly to the foot by means of the leather strap which passes
between the first and second toes, and through the two leather loops to be fastened over the instep
(cf. Fig. 242a). This sandal type is in high esteem for walking in the mountainous parts of the Ahaggar
Massif, for it is strong, keeps firmly to the foot, and does not easily slide on the rocky surface. It is

Lhote describes the skin-stockings (*abuheg*) used among the Ahaggar Tuareg as having a very 292 particular cut, so that the first toe is separated from the other toes in order that the stocking may be worn with sandals. The following description of Tuareg skin-stockings is additionally given:— "Cette chaussette monte un peu plus haut que les chaussures européennes à tiges et se lace de même au moyen d'un lacet de peau. Il y a une petite languette et la jonction empeignetige est renforcée par une rondelle de peau fixée par une couture. La semelle est une simple peau de filali qui serait vite usée si l'on marchait directement dessus. *L'aboûheg* est fait en peau de mouton ou en peau de gazelle tannée, et souvent 237 avec des chutes de mauvaise qualité. Les peaux sont ordinairement teintes en noire et la rondelle de 822 renforcement en vert. Mais il y en a aussi qui sont faites en filali rouge de bonne qualité. Le prix de ces dernières est plus élevé et elles sont généralement faites sur commande. On trouve sur le marché d'Agadez, des *iboûhegen* qui sont l'oeuvre des artisans cordonniers de cette ville. Nous n'en avons jamais vu faire chez les Touareg du Nord, qui les font aujourd'hui confectionner par des artisans de Tamanrasset et s'en procurent également à Agadez. De même, nous n'en avons jamais vu porter chez les Ioullimiden de Ménéka ou chez les Tenguéréguifs. Les gens d'In Salah et de Djanet la connaissent ainsi que les Chaamba" (Lhote 1950d, p. 527 f.). According to Lhote, just quoted, *abouheg* (*abuheg*) is described by Foley not as stockings, but as boots, which form part of the ceremonial equipment of the Ahaggar Tuareg, while Foureau (1894, p. 203) says that wealthy Tuareg among the *Kel Ajjer* wear boots made of soft leather and manufactured at Ġadames, Ġat, and in Ayr. These boots according to Foureau have a separate space for the first toe in order that they may be worn with sandals, and as claimed by Lhote, they are not true boots, but skin-stockings (cf. Lhote 1950d, p. 527 f.). Duveyrier also speaks of the use of soft leather boots known as *ihôhadjen* sometimes worn by chiefs (Duveyrier 1864, p. 407), and in the case of the *Iwllemmeden Kel Dennek* Nicolas mentions the use of a type of boots ("la botte de cavalier") known as *abûzag* (pl. *ibuzâgen*) (Ar. *tmâg*) (Nicolas 1950a p. 174).

Foucauld speaks of *abuheg* as a type of soft leather boots, but he mentions that this same word is also used for knitted stocking. Such stocking are also known by the feminine form *tabuhek*, though the proper meaning of this latter word is "slipper". Slippers are worn by a few men and women in 765 winter, and a woman frequently wears them during the period of isolation (4 months and ten days) after her husband's death. According to Foucauld the leather boots (*abuheg*) are never worn by women but only by a very few men (cf. Foucauld 1951–52, I, p. 36). It is a great pity that the authors who 114 refer to the use of soft leather boots or stockings have reproduced no illustration which clearly indicates their cut. But fortunately there is a pair of leather stockings in the collection of the Ethnographical Museum at Neuchâtel. There can be little doubt that this garment serves as a stocking and not as a boot, for it has a separate space for the first toe which would be meaningless if not worn with sandals. The leather stocking is made from three pieces of leather:— (1) A sole or rather a bottom piece which is bent slightly up over the foot, notably at the heel; (2) A piece of leather covering the instep and sewn to the forepart of the bottom piece; (3) A piece of leather forming the leg and sewn to the instep and bottom pieces. It is interesting that all three pieces are of the same type of leather and that the bottom piece resembles that of moccasins.

The sort of slipper termed *tabuhek* by Foucauld and worn by both sexes, is identical with leather slippers or shoes provided with a distinct sole. These shoes seem to be of Arab origin, and I have 172

Arab bedouins is given by Finbert:— "Dans les jours de disette, on pulvérise les ossements de la 261
carcasse, et bien que l'Islam interdise l'usage du sang, on l'y mêle en le recueillant d'une veine que 171
l'on ouvre à un chameau. De ce mélange on fait une pâtée que l'on dévore. En cas de famine prolongée, on mange de la corne moulue avec des trayons macérés dans du sang. Le sang lui-même, toujours pris sur l'animal vivant, est versé dans des boyaux qui sont ensuite grillés comme du boudin" (Finbert 1938, p. 39). It is very possible that the custom of bleeding live animals for food has once been widely known among many people of the area now dominated by Islam; thus Ibn Batutah mentions a Turanian people among whom blood of live horses is used for food (Ibn Batutah III, p. 24).

Among the Tuareg a certain medical value is attached to camel's urine (p. 127), but they do not 237
wash in it as do many Arab bedouins of the Peninsula. A conception of camel's urine as something 171
clean seems to exist among many camel-breeders, and Thesiger mentions that bedouins of Southern Arabia wash their hands in camel's urine before milking (Thesiger 1959, p. 145).

It is evident that some traits of camel-breeding resemble customs known also to African cattle- 233
breeders, and it seems as if these customs are widely found among people who breed one-humped 171
camels. – Certain traits of camel-breeding are peculiar to the Tuareg and a few adjacent peoples.

In contrast to all other camel breeding peoples the Tuareg and some adjacent peoples have riding 492
saddles that they place in front of the camel's hump (p. 78 ff.). The common saddles are those known 171
as *térik*, comprising the two main types named *tamzak* and *tekokeyt*, the most developed riding saddles among the Tuareg. These saddles are also used by some of the Northern Arabs, notably the *Ulad Ba Ḥammu* and the *Chamba* who import them from Southern Tuareg country – particularly from Agadez where the best saddles are made. The *térik* saddles with a cruciformed pommel are quite peculiar to the Tuareg.

The Tuareg saddle known as *ahyas* or *tahyast* (Fig. 63) resembles the *térik* type in that it is also placed in front of the camel's hump, so that camels are ridden in exactly the same manner as with *térik*-saddles. The *ahyas* type is not mentioned from the *Kel Dennek* Tuareg. But it is extremely common among the *Western Iwllemmeden* and is said to have originated in Aḍraṛ-n-Foṛas. Further west among the Moors, a riding saddle somewhat resembling the *ahyas* type seems to form the common type. It differs from the *ahyas* mainly in that it has a very low pommel and a very broad and deep seat. Several specimens of this Moorish saddle type are found in the Musée de l'homme in Paris (e.g., nos. D. 33.24.14 & 34.76.15). These Moorish saddles are placed in front of the hump like all Tuareg riding saddles, but I have been told that owing to their peculiar structure the riders cannot generally reach the camel's neck with their feet, so that they ride more bumpily and less steadily than the Tuareg, who secure their position by stemming their naked feet against the camel's neck. This is also seen from photographs of camel riders from Mauretania (cf. Puigaudeau 1945, ill. p. 128–129).

The *térik* and *ahyas* saddles are always made by blacksmiths, and this is probably also the case [564
with the Moorish riding saddles. But as mentioned above (p. 82 ff.) the Tuareg of Ayr make certain primitive riding saddles themselves, and these, called *kantarki* or *delobi*, are perhaps the prototypes of the more developed saddles made by the blacksmiths. Tuareg riding saddles for camels do not seem to have been introduced to Africa by the Arabs of the Peninsula where such saddles are unknown. The use of a single rein attached to a metal ring fixed in the right nostril of the riding camel is perhaps

182 suitable natural boughs are abundant. There are advantages and disadvantages in mat tents as well
*342 as in skin tents. During the very hot season the mat tent is by far the best type of dwelling; it is
comparatively high and the mat covering is not heated to any great extent by the sun. During the
[132] rainy season the mat tent is less practical than the skin tent. Rain may fall so heavily and abundantly
that it penetrates the mat covering, and even if it does not it will be necessary to remove all mats after a
heavy shower in order to dry them in the sun. The skin tent is normally erected quicker than the mat
tent, it protects efficiently against rain, but is, on the other hand, most unpleasant during the hot season.

[824] It does not seem possible to explain the distribution of mat tents and skin tents on purely geographical
grounds, but it seems as though the mat tent is used mainly where dum palm leaves for plaiting
are available. Where the dum palm disappears, the mat tent tends to disappear also, though mat tents,
as we have seen, may be provided with a covering of *éwerwer* type (p. 350 f.). Outside of the dum
palm area most Tuareg have skin tents for portable dwellings. Within the dum palm area mat tents
and skin tents are mixed in certain regions, and it has been seen that certain Tuareg use mat tents
during the very hot season before the rains, but adopt skin tents when the rains start. This seem to
● [237] indicate clearly the advantage and the disadvantage of the two dwelling types. But the advantages
of both dwellings can be obtained in another way, namely by placing a sheet of skin over the top of
the mat tent in the rainy season. This is actually done by many Tuareg. I was told that the *Kel Faday*
Tuareg around Ingal very frequently cover their mat tents with skin during the rainy season, and
remove the skin again when the rains are over. It is perhaps this to which Rodd refers in a brief note
on Tuareg tents in Ayr (Rodd 1926a, p. 212), and we may be sure that the usage is a very ancient
one in these regions, for it is mentioned already by Ibn Batutah in reference to the *Bardamah*, who
are stated to be nomads that frequently move their camps (cf. Ibn Batutah IV, p. 437). The custom
of covering mat tents with a sheet of skin has also been noted in the case of the *Iwllemmeden* Tuareg
by Barth (Barth 1857–58, I, p. 597 f.). It is very possible that it is still more widely known in Southern
Tuareg groups, as it allows in an easy way the advantages of both types of dwellings.

B.2. *Skin Tents.*

*342 Skin tents are used by Tuareg in all groups, though there is some doubt as to the use of skin tents
184 among the *Kel Geres*. I have myself previously stated that they have skin tents (Nicolaisen 1959, p. 118),
this statement being based on information gathered in Ayr 1955. Lhote also mention that some *Kel
Geres* use skin tents, while other pastoralists in this group own mat-covered tents (cf. Lhote 1947a,
p. 79, phot. 51 p. 80–81). But when I visited the camp of the *Kel Geres* drum-chief in 1959 he claimed
that the *Kel Geres* always live in mat tents. As to the *Kel Ayr*, skin tents are very rare among them.
In all other Tuareg groups skin tents play a very important role. They constitute so to speak the only
kind of portable dwellings among the Northern Tuareg and the *Kel Adɣaɣ*, and they form the most
common type of tent also in the two groups of *Iwllemmeden* Tuareg. Zeltner says that the dividing
line between skin tents and mat tents in Southern Tuareg country follows the Paris Meridian (Zeltner
1914a, p. 364), but there is in fact no true dividing line between these dwelling types, which are sometimes
used by the same people at different seasons, and the two tent types are sometimes combined
into one, as mat tents may be covered with skin throughout the rainy season.